THE NEW YORK

JOURNAL OF MEDICINE.

FOR MARCH, 1845.

PART FIRST.

Original Communications.

ART. I.—*History of Medical Legislation in the State of New York.* By CHARLES B. COVENTRY, M. D., Professor of Midwifery and Medical Jurisprudence in the Medical Institution of Geneva College.

THE law passed by the last Legislature repealing the former law which prohibited any person from practising medicine without a license, has attracted so much attention, and elicited so much discussion, and is indeed a matter of such vital importance to the profession and community, that a few observations on the provisions of that act, and the existing law regulating the practice of medicine in this State, cannot be inappropriate.

The law regulating the practice of physic and surgery, as it exists at present in this State, is extremely complicated, made up of portions of separate acts passed by different Legislatures, the provisions of one act often appearing to conflict with the provisions of a preceding act, so that to a person who has not watched the successive changes, it is difficult, if not impossible, to understand the provisions of the present law. As an evidence of this obscurity, we have the fact that the State and County Societies have not unfrequently been compelled to apply to the Attorney General to explain the law, from the diversity of opinion as to the powers of the medical societies under the present law. I am aware that the impression is very general, that under the act of May last, all former acts were repealed, and that by this act the medical law is reduced to great simplicity, placing all, whether licensed or not, on a footing of equality. Both these propositions are believed to be erroneous; the previous law was not repealed, except so far as it conflicted with the provisions of that act, and the act itself (as we shall see) is very far from placing licensed and unlicensed practitioners on a footing of equality in the eyes of the law. A brief history of the legislation on the subject will not be without interest, and will aid us in elucidating the law as it now exists.

In almost every country making pretensions to civilisation, laws have been passed, regulating the practice of medicine. The laws affecting the practice and study of medicine, are of two kinds; the one to encourage the cultivation and study of the science, by furnishing the necessary facilities, by the establishment and endowment of colleges for instruction, and in some countries, by establishing professorships at the expense of government, as in France. In some countries, certain exclusive privileges were granted to such corporations, as is the case with the royal colleges of physicians and surgeons in London. The others were such laws as fixed the length of the time of study, the course of study and the ordeal through which the student should pass in order to obtain a license to practise, and forbidding all persons from practising under certain penalties who had not previously obtained such license. The former were to aid and assist the student in acquiring a thorough knowledge of his profession; the other to protect the community against ignorant and unqualified pretenders.

The first act regulating the practice of medicine in the Colony of New York, was passed in June, 1760, entitled "An Act to regulate the practice of Physic and Surgery in the City of New York." The preamble states that "Whereas many ignorant and unskilful persons in physic and surgery, in order to gain subsistence, do take upon themselves to administer physic and practise surgery in the city of New York, to the endangering of the lives and limbs of their patients, and many poor and ignorant persons who have been persuaded to become their patients, have been great sufferers thereby." It was enacted that after the publication of this, no person whatsoever should practise as a physician or surgeon in the city of New York, before he had been first examined in physic and surgery and approved of and admitted by one of his Majesty's council, the Judges of the Supreme Court, the Attorney General, and the Mayor, for the time being, or by any three of them, taking to their assistance for such examination such person or persons as they in their discretion shall think fit. If the candidate be approved, the examiners were to give them a certificate to that effect; which certificate constituted a license to practise physic or surgery, or both, throughout the province of New York. A penalty of five pounds, with costs of suit, was imposed for a violation of this act.

The peculiarity of this act was that other than medical men were constituted the judges and examiners of those soliciting a license; true, they were authorized to take to their aid other persons, but this was optional. We cannot suppose the examinations were very efficient, when the examiners themselves were necessarily ignorant of the subject.

After the revolution, the first act passed to regulate the practice of the profession was in 1792; like the act of 1760, its operation was limited to the city. The preamble sets forth that "many ignorant and unskilful persons presume to practise physic and surgery within the city and county of New York, to the detriment and hazard of the lives and limbs of the citizens thereof," &c.

This law requires two years' study with some respectable physician, if the student is a graduate of an incorporated college in the United States, and three years if he is not. 2d. An examination before the Governor, Chancellor, the Judges of the Supreme Court, the Attorney General, the Mayor and Recorder of the city of New York, or any two of them, who are to take to their assistance any three reputable practi-

tioners with whom the examined person has not lived. The certificate of this board constituted a license to practise, and the penalty for violation was inability to collect pay for professional services. This law, however, was not to affect persons already in practice, those who had the degree of doctor of medicine, nor to prevent physicians from neighboring States or counties being called in consultation. It will be noticed that, like the act of 1760, its operation was confined to the city and county of New York, and that in both the preamble sets forth that it is to *protect the community* against *ignorant* and *unqualified* practitioners.

The first general act whose provisions extended throughout the whole State was passed on the 23d of March, 1797. The first section ordains that from and after the 1st of October, 1797, no person now practising physic or surgery, or both, shall be allowed to continue to do so unless he shall have produced satisfactory evidence to one of the officers mentioned in the previous act, that he has practised physic and surgery for the term of two years next preceding the day aforesaid, or shall, in a similar manner, exhibit evidences of having studied medicine for the term of two years. Either of the above magistrates were authorized to grant a certificate, which certificate was to be filed in the office of the clerk of the county where he resides. The penalty for practising without such a filed certificate was twenty-five dollars. The second section applied to the student, and declares that after the above date, he should not be allowed to practise unless he exhibited to either of the above magistrates, a certificate from one or more reputable physicians or surgeons with whom he has studied, stating that he had studied medicine for four years, and that he was well qualified to practise. The person or persons signing the certificates were to make oath to the same, and the magistrate was to endorse on it a permit, allowing the individual to practise. This certificate was also to be filed in the clerk's office. Graduates of literary colleges were required to study but three years, and bachelors and doctors of medicine were permitted to practise on filing their diploma.*

In all these regulations, two objects seem to have been kept prominently before the Legislature, viz., to *elevate* the *profession*, and to protect the community against the imposition of *empirics*. It was left for the wisdom of more modern legislators to discover that, to elevate the medical profession by encouragement was injustice to the rest of the community, and that to protect the lives and health of the people from ignorant empiricism, was to trespass upon their "unalienable rights." Although the above was in many respects an improvement on the former law in its extension throughout the whole State, and in fixing the term of study at four years, still there was one serious defect, viz., omitting the test of an examination, and granting a license simply upon the certificate of the instructor. In the year 1806 was passed the celebrated law for the incorporation of Medical Societies, and regulating the practice of Physic and Surgery.

This act is the foundation of all subsequent legislation upon the subject, if we except the act of last spring. This act was characterized by the important changes it made in the profession, by its clearness and efficiency, as well as by the violent opposition which it met in its pas-

* But three Medical Institutions, viz. Philadelphia College, Col. Col. and Harvard, the act of 1792 was repealed.

sage through the Legislature. The main features of this act were, that the Physicians and Surgeons of each County in the State, if not less than five, should meet on the first Thursday of July and form themselves into a Medical Society ; that a State Society should be formed by delegates from the several County Societies ; that each County Society should form a Board of Censors, which Board should alone have the power of granting licenses, and that the student should exhibit satisfactory evidence of having studied medicine three years before he was admitted to an examination. The power of granting licenses was thus taken from the judiciary and placed under the control of the medical profession, where it legitimately belonged. It is understood that the project of this law first originated with the Physicians of the County of Saratoga, and that the venerable Doct. John Stearns, if not the originator, was one of the earliest and ablest advocates of the law. As has been stated, the passage of this law (strange as it may now seem) met with the most strenuous opposition. Fortunately, Doct. Alexander Sheldon, of Montgomery County, one of the Committee appointed to prosecute the application, was, this year, chosen Speaker of the Assembly. Doct. Stearns, in his account of the passage of the bill, says : " The dangers to which the tranquillity of the State would be exposed by the incorporation of forty distinct associations of physicians were so manifest by the opposition and the impression thereby made upon the House was so great, that but feeble hopes were entertained of its success. At this critical juncture, when a decisive vote against the bill was every moment expected to be taken, the late Hon. William W. Van Ness rose its most eloquent and powerful advocate ; and, perhaps, the pre-eminent powers of his parliamentary eloquence were never exerted with better effect. He refuted the arguments of the opposition, portrayed the benefits to the profession and to the public in such glowing colors, and with so much energy and zeal, that the opposition became feeble ; the friends of the bill increased, and from that moment the successful issue was rendered certain. To his memory do the profession owe a monument of marble with their gratitude deeply engraved upon its tablet." Such is the interesting account given of the passage of this important bill by Doct. Stearns ; and how honorably does the course and language of Judge Van Ness contrast with that of the Honorable Senator who introduced and advocated the bill of last spring!

Unfortunately there was no Van Ness in the Senate to protect the profession from this abuse. By the Act of 1806, the only penalty for not complying with the law was an inability to collect pay for services. In 1807, some additional details were passed for regulating the internal concerns of the Societies, and a penalty of $5 00 per month was imposed for practising without a license. This, however, was not to prevent a person from using or applying for the benefit of the sick any roots or herbs, the growth of the United States. This laid the foundation of the absurd law making a distinction between native and foreign articles of Materia Medica, and which effectually nullified the preceding clause with the penalty attached.

In 1809, it was enacted, that the degree of Doctor of Medicine, granted by the Regents of the University, should constitute a license to practise physic and surgery. In 1812, the penalty for practising without a license was increased to $25 for each offence ; and the license was required to be filed in the county clerk's office.

On the revision of the law in 1813, the several Acts of 1806, 1807, 1809, and 1812, were consolidated into one, with the exception of such provisions as had been repealed or rendered nugatory by the succeeding Acts. As the Act of 1813 is in full force, and still constitutes a part of the Medical law of this State, so far as the organization and powers of the Medical Societies are concerned, it will be proper to notice some of its provisions.

The Preamble states that, "Whereas, well-regulated Medical Societies have been found to contribute to the diffusion of true science, and particularly the knowledge of the healing art, therefore,

"Be it enacted, &c."

The first section goes on to state, that the physicians and surgeons in the several counties in this State, now authorized by law to practise their several professions, may form themselves into Societies, and that such Societies shall constitute corporations. Section 2d, That the Medical Societies of counties already incorporated shall continue to be bodies corporate; that they shall have the ordinary powers of such bodies, and that the president, vice-president, secretary, and treasurer of such Societies, shall hold their offices for one year, and until others are elected in their places.

§ 3. Directs that the State Medical Society shall continue a corporate body; that it shall be composed of one delegate from each county society, who shall meet together at the place and time appointed by the said society for that purpose, and being not less than fifteen in number, may elect officers, who shall hold their offices for one year, and until others shall be appointed.

§ 4. Empowers them to fix and determine the places and times of their meeting, and the day so agreed upon shall for ever thereafter be the anniversary day of holding their respective meetings; and it is made the duty of the secretaries of the respective Societies to file a copy of such proceedings in the Clerk's office of the county and of the State Society in the office of the Secretary of State.

§ 9. Empowers the Societies to examine all students who shall present themselves for that purpose, and to grant a diploma under the signature of the president and seal of the Society, which diploma shall authorize the person to whom it is given, to practise physic or surgery, or both, in any part of the State.

§ 10. Gives the power of appeal from the County to the State Society.

§ 11. Empowers the Societies to appoint not less than three, nor more than five Censors, whose duty it shall be to examine students.

§ 13. Enacts that it may be lawful for the Societies to hold real and personal estate, provided such estate does not exceed $1000 for the County Societies, or $1000 for the State Society.

§ 14. "And be it further enacted, that it shall be lawful for the respective Societies to make such by-laws and regulations relative to the affairs, concerns, and property of said Societies, relative to the admission and expulsion of members, relative to such donations or contributions as they, or a majority of the members at their annual meeting, shall think fit and proper. Provided that such by-laws, rules, and regulations made by the Society of the State of New York, be not contrary to, nor inconsistent with, the constitution and laws of this State or of the United States; and that the by-laws, rules, and regulations of the several County Societies shall not be repugnant to the by-laws, rules, and regulations of the Medi-

cal Society of the State of New York, nor contrary to, nor inconsistent with, the constitution of this State or of the United States."

The following sections simply point out the manner in which the business shall be conducted, &c., and the fee which the Societies shall receive for their diploma, which is $10 to the county Societies and $10 to the State Societies.

By the Act of 1813, the student was required to study three years, but in 1818 it was enacted that, after the 1st of May, 1821, he should study four years. With the following exceptions one year might be deducted, if he had attended classical studies for that period of time after he was sixteen years of age, or had attended one full course of medical lectures in an incorporated medical college; but no person was to be licensed who had not arrived at the age of twenty-one years. In 1818, it was also required that the student should file a certificate of the time of commencing his studies. In 1819 it was directed that no college of physicians and surgeons in this State should confer the degree of Doctor of Medicine upon any student, unless such student had complied with the general regulations, and, in addition, had attended one complete course of all the lectures delivered in the College granting the diploma. The Acts of 1818 and 1819 being merged in the general regulations passed in 1827, the law regulating the practice of physic and surgery in this State was materially changed. It should, however, be mentioned that, by the Act of 1818, the State Society was authorized to elect not more than twelve and not less than six censors; that the county Societies were authorized, under certain circumstances, to change the time of holding the annual meeting, and that each of the Medical Colleges were authorized to send delegates to the State Society. These sections were not repealed, and are consequently in full force. By the Act of 1819, the Societies were authorized to collect from every practising physician and surgeon in the county, the sum of *one dollar each year;* and in 1823, an Act was passed giving to the Societies general powers to change the time and place of the annual meeting. By the general law passed in 1827, R. S., vol. i., part i., chap. 14, title 7th, it is directed that the President of every county medical Society shall give notice in writing to every physician and surgeon not already admitted a member of the Society of the county in which he resides, that within sixty days after the service of such notice, he apply for and receive a certificate of admission as a member of such Society. If such physician or surgeon shall not, within the time specified in the notice, or within such other time as may be allowed by the president under the regulations of the Society, apply for a certificate of membership in such Society, his license shall be deemed forfeited, and he shall be subject thereafter to all the provisions and penalties of an unlicensed physician, until, on a special application, he shall be admitted a member of the Medical Society of the county in which he shall reside.

It has been supposed by many that this section of the law conflicts with the law authorizing the county Societies to make such rules and regulations for the admission and expulsion of members as they should deem proper; but Justice Bronson, when Attorney-General, directed that the two laws should be taken together; the president was required to give the notice, and the physician receiving the notice was bound to apply for the certificate, under the penalty of forfeiting his license. It was, however, optional with the Society whether they should admit him

or not. If they refused, he had done what the law required, his license was not forfeited, he only lost the benefit of membership. The following sections point out the mode by which a member may be expelled, and deprived of his license for gross ignorance, misconduct in his profession, or immoral conduct or habits. This, however, does not prohibit the Society from expelling any member for any cause they may deem proper; but in this case the mere expulsion does not deprive him of his license to practise.

By the Revised Statutes, to practise medicine without a license was made a misdemeanor, punishable by fine and imprisonment.

The revisers very properly believed that the law should in reality accomplish what it professed to do, and that if persons were forbid to practise without a license, the penalty should be such as to effect the object in view; but this provision of the law was not permitted to remain long in force; it was represented as oppressive, &c., and consequently, in 1830, this clause of the law was repealed, and the former absurd law of imposing a nominal penalty of $25, at the same time permitting them to practise with the roots, barks, and herbs, the growth of this country, was re-enacted. No person, unless he was licensed to practise, could by law recover pay for his services. Such were the regulations with regard to a license, until the passage of the Act of last Session.

With regard to the degree of Doctor of Medicine, on the 28th of March, 1834, an Act was passed, recognizing the degrees of Geneva College, and declaring that they shall constitute a license to practise physic and surgery in this State. On the 11th of February, 1837, the University of New York was authorized to establish a Medical Faculty, and its degrees to have the same validity as those of Geneva College; and in 1839, the Albany Medical College was incorporated with similar power. Such was the state of the law until the passage of the Act of last May. For a number of years in succession, our legislation halls were besieged with numerous petitions for a repeal or modification of the medical law, as unjust and oppressive; and we have witnessed the mortifying spectacle of men of education and talents in our legislature, gravely advocating their repeal, on the ground that the clause preventing the unlicensed practitioner from sueing and collecting pay, was oppressive. In other words, that it was unjust and oppressive, that he could not enter our courts of justice and there recover pay for acts which were in themselves a violation of the very laws of the country. On the 6th of May, 1844, the following Act was passed:

"The people of the State of New York, represented in Senate and Assembly, do enact as follows:

"§ 1. The twenty-second section of chapter fourteen, title seven, part first, of the Revised Statutes, and all laws of this State which prohibit any person from recovering, by suit or action, any debt or demand arising from the practice of physic or surgery, or a compensation for services rendered in attending the sick or in prescribing for the sick, are hereby repealed.

"§ 2. The Act entitled 'An Act concerning the Practice of Physic and Surgery in this State,' passed April 7, 1830, is hereby repealed.

"§ 3. No person shall be liable to any criminal prosecution or to indictment, for practising physic and surgery without license, excepting

in cases of mal-practice, or gross ignorance, or immoral conduct in such practice.

"§ 4. All and every person, not being a licensed physician, who shall practise or attempt to practise physic or surgery, or who shall prescribe for or administer medicines or specifics to or for the sick, shall be liable for damages, in cases of mal-practice, as if such person were duly licensed to practise physic or surgery.

"§ 5. Any person, not being a licensed physician, who shall practise or profess to practise physic or surgery, or shall prescribe medicines or specifics for the sick, and shall, in any court having cognizance thereof, be convicted of gross ignorance, mal-practice, or immoral conduct, shall be deemed guilty of a misdemeanor, and liable to a fine not less than fifty dollars, and not exceeding one thousand dollars, or imprisonment in the county jail, not less than one month nor exceeding twelve months, or both, in the discretion of the court."

Although this Act was introduced upon the petition of the empirics, it was supported by many of the friends of the profession, and, if I am not mistaken, the medical men in both houses voted for the bill. I believe myself that it is far better both for the profession and the public than the former law, which professed to protect the community, and at the same time failed to accomplish its object. A very mistaken notion pervades the community, that all laws prohibiting any and every person from practising are shaped for the benefit of the medical profession. Nothing could be more erroneous. The object is to protect the community from the imposition of ignorant and unprincipled practitioners. That the effect would be, were the laws efficient, to elevate the profession, and thus unintentionally to benefit it, I will not deny. In this country, public opinion is the law of the land, and the legislator or law-maker is only the exponent of that sentiment. The very first principle of our government is, that man is capable of governing himself, and requires no protection from his own acts; if he chooses to employ a Thompsonian or botanic or Indian doctor (as they term themselves), he has a perfect right to do so, and to prevent him is to interfere with the *inalienable rights* of man, and is not to be tolerated. Experience teaches, that in the present state of public sentiment an efficient law of the kind cannot be retained in the Statute book. Whether such a law would be useful, is not the question. The question is between the law as it was professing protection without affording it, or the repeal of all prohibitory laws. For myself, I am decidedly in favor of the latter. It is a great mistake to suppose, as many have, that the recent law makes no distinction between the licensed and unlicensed practitioner. The law virtually says, we cannot properly forbid your practising; if you understand the business which you profess, and conduct yourself with propriety, all is well; but if you should prove to be grossly ignorant of what you profess, it is an imposition upon the community, and you are punished as a swindler. If a man understands his profession, it is of little consequence whether he has a license or not; but in that case it would be easy to obtain one. When a man has complied with the prescribed regulations and obtained a license, the law supposes he necessarily understands his profession, and to practise it cannot be considered a misdemeanor. Let us, then, briefly recapitulate what the law now is, regulating the practice of physic and surgery in this State.

1. Any person (man, woman, or child) may practise and collect pay for their services.

2. Any person not being a licensed physician, who shall practise or profess to practise physic or surgery, or shall prescribe medicines or specifics for the sick, and shall, in any court having cognizance thereof, be convicted of gross ignorance, mal-practice, or immoral conduct, shall be deemed guilty of a misdemeanor, and liable to a fine not less than fifty and not exceeding one thousand dollars, or imprisonment in the county jail not less than one month nor exceeding twelve months, or both, at the discretion of the court.

3. In order to obtain a license, the student is required to be twenty-one years of age and of good moral character, and to have studied his profession four years with some regularly licensed practitioner, and have been examined and licensed by the censors of the county medical Society of the county where he pursues his medical studies, or by the censors of the State medical Society or shall have received the degree of Doctor of Medicine from one of the regularly incorporated medical colleges of this State. One year may, however, be deducted, in case the student has attended a full course of lectures in one incorporated medical college, or shall, after the age of sixteen years, have devoted one or more years to classical studies. In order to obtain the degree of M. D., the student must, in addition to the above requirements, have attended two full courses of medical lectures, and be examined by the professor instead of censors.

Persons coming from another State or country, must give satisfactory evidence that they have complied with the requirements in this State. The practitioner must file a copy of his license or diploma in the office of the Clerk of the county in which he proposes to practise, and if he receives notice from the president of the medical Society, must, within sixty days, apply for a certificate of admission as a member of the Society. If, however, he receives no notice, he is not bound to make the application; or if, on application, he is refused admittance, it does not affect his license.

Many persons have supposed that the law of last winter altered or modified the power of the county and State Societies, and that some new Act would be necessary to enable them to manage their affairs; but this is entirely unnecessary. They already possess all the power necessary for the management of their concerns, and to make such *by-laws respecting the admission and expulsion* of members as they shall see fit, only provided they are not contrary to the laws and constitution of this State or the constitution of the United States.

Much discrepancy of opinion exists both within and out of the profession, as to the advantage of restraining laws. It appears from a very able report made to the Monroe County Medical Society, that, in the States of New Hampshire, Rhode Island, Pennsylvania, Virginia, North Carolina, Kentucky, Tennessee, and Missouri, no medical laws have been enacted. In Maine, Vermont, Massachusetts, Connecticut, Maryland, South Carolina, Alabama, Mississippi, Indiana, and Ohio, the restrictive laws have been repealed. In four States, viz., New Jersey, Georgia, Louisiana, and New York, were there any prohibitory laws; and even in those States where the laws have been repealed, there is a discrepancy of opinion as to the effect. Doctor Cartwright, of Natchez, in a very able paper, published in the American Journal for January, 1841, proves that the mortality in Natchez materially increased after the year 1834, when the restraining law was repealed. But Mississippi was one of the first, if not the only State, where the restraining law effected what it professed. In

most of them it was a dead letter, as in this State, except as used by the empirics themselves to get up the cry of persecution. In Georgia the law surpassed in absurdity, if possible, that of our own State; thus, at reorganizing a board of physicians with power to grant licenses, &c., it adds, "provided nothing in the said revised Act be so construed as to operate against the Thompsonian or *botanic* practice, or any other *practitioner* of *medicine* in this State." The conclusion which may be drawn is, that when restrictive laws are really efficient and enforced, they protect the community against inexperience and its consequences, but that popular sentiment is opposed to them; consequently the law is either so drawn as to be inefficient, or is, in nine out of ten cases, openly violated with impunity, whilst its existence is such as to get up a feeling of hostility to the regular profession; consequently, when the law is not efficient or not enforced, it is much worse than no law. Senator Scott, who introduced the bill of last May, in a long and elaborate report richly larded with abuse of the regular profession, has the following as the sole argument in favor of the repeal. "A people accustomed to govern themselves, and boasting of their intelligence, are impatient of restraint. They want no protection but freedom of inquiry and freedom of action;" he would therefore let loose upon the community every unprincipled vagabond, who was so far destitute of conscience as, without any preparation, without any evidence of a knowledge of his profession, or even any evidence of moral character, to prey upon the miseries of the community. From the honorable gentleman's report and subsequent speech, one would naturally infer that he was sent to the Legislature, not to protect the interests of his constituents and the community, but to abuse an honorable and useful profession, and to advance and sustain quackery, which is one of the greatest nuisances of the present age. The reasons given by the Committee of the Monroe County Society are much more valid; they say, "Law is the expression of the public will, without which it can neither be enacted, sustained, nor executed. The written statute is therefore a dead letter whenever the public mind is arrayed against it. And this is pre-eminently the case with regard to the medical law of this State at the present time. Empiricism is everywhere rife, and was never more arrogant, and the people love to have it so. That restless agrarian spirit that would always be levelling down, has so long kept up a hue-and-cry against calomel and the lancet, that the prejudices of the community are excited against, and their confidence in the medical profession greatly impaired, and no law could be enforced against the empiric and nostrum-vender. Every attempt of the kind would only create a deeper sympathy in their favor, and raise a storm of higher indignation against the profession. This spirit cannot be controlled by arbitrary legislation." These surely are sufficient reasons, if there were no others, for a repeal of the late law; and I should regret to see the profession applying to the Legislature for any restrictions on the practice of medicine.

Much has been said of late on the subject of Medical Reform. Its necessity is urged in the able report from which I have quoted, but in what it is to consist or how to be accomplished, does not appear. The very able committee, I find, have run into the same error as many others, in supposing that the medical Societies did not possess the power of regulating the admission or expulsion of members. Justice Bronson says, "It has never been doubted that the Act of 1813 gave the several Societies ample directions as well in relation to the admission as the expulsion of

members. They were not compelled without their consent to associate either with licensed quacks or men of bad moral character." Among the modes of reform, a national convention of the schools and State societies has been suggested. This has been tried, and proved a failure.

A favorite project with the reformers is, to abolish the power of licensing by the colleges and county societies, and have one grand central board, or several district boards, to be appointed by the State society; or, in other words, substantially giving all power of licensing to the State society. Very few students are now licensed by the county societies; the principal object, therefore, would be to take the power from the medical colleges. We will not here stop to question the power of the Legislature to do this; but, I would ask, what would be gained? Would a board, entirely unacquainted with the pupil, be more competent to judge of his qualifications from a single examination, than those who had examined him daily for four or eight months? Or could they judge better of their moral character than persons who for months had had them under daily observation? Or is it to be expected that censors taken, as they must necessarily be, from persons engaged in practice, would be more competent to examine than persons engaged in teaching? But it may be said, the colleges are influenced by unworthy motives, and permit students to pass who are not qualified! I confess I am not of the number of those who are always disposed to suspect unworthy motives, when such motives are barely probable. Again, it is not the interest of the medical colleges to pass unworthy students; but even admitting the objection, I would ask, what greater protection would such a board furnish than the present mode of conducting the examination in the medical institution of Geneva College? The student is examined in the presence of a board of curators, who are entirely unconnected with teaching; six of these, equal to the whole number of professors, are appointed by the State Medical Society; the remainder are men of standing and reputation in their profession, appointed by the counties, and these vote with the professors in recommending students for degrees. At least three curators must be present and sign the recommendation.

ART. II.—*On the Action and Uses of Aloes.* By JOHN C. PETERS, M. D., of New York.

1. IT is a specific purgative, for when applied externally to a blister, it operates in the same manner as when administered internally (GERHARD); tincture of aloes applied to a carious bone, has excited purging (MONRO); an aloetic pill applied to an issue has had the same effect (PEREIRA); also, an aloetic salve, when rubbed upon the abdomen (DIERBACH).

2. The part operated, however, is in dispute. Wood and Bache think it has a peculiar affinity for the large intestine; and rather to its muscular coat, than the exhalent vessels, as the evacuations produced are seldom very thin, or watery. Cullen agrees with this, and asserts that it rarely, or ever, produces more than one stool, which seems to be

an evacuation of what may be supposed to have been present in the great intestine, while hardly any dose under 20 grs. will produce a liquid stool, which effect is always attended with pain and griping. On the other hand, the ordinary bulky and rather hard evacuation may in innumerable instances be constantly obtained from 1 or 2 grs. The slowness of its operation has also been advanced by Lewis, as proof that it acts on the large, rather than on the small bowels, for it hardly ever operates under 10 or 12 hours, often not till 16 or 18, while even 24 hours may elapse; but this may be attributed to its insolubility in the stomach. Finally, to be still more minute, Newmann conjectures that it acts especially on the circular muscular fibres of the colon. Whether given in large or small doses, it hardly ever causes a copious evacuation.

3. On the other hand, aloes has been supposed to act upon the liver from times immemorial: *Aloe bilem rubeam expellit* (Rhazes); *Aloe ad inferius intestinum bilem ducit* (Aretaeus). According to Sigmond, its influence upon the liver is marked by the peculiar condition of the evacuations, the color and odor of which, and their peculiar pungent effect on the rectum, prove that an increased quantity of bile has been poured forth. Wedekind assumes that the operation of aloes depends on an increased secretion of bile, excited by its specific action on the liver, and asserts that, as long as the stools are white or grey, in jaundice, aloes will not purge even in large doses, while the purgative effect supervenes as soon as the fæcal matter contains bile;—he even carries this opinion so far as to declare that if given when the quantity of bile is normal, or increased, aloes may induce bilious dysentery and hepatitis. Vogt, too, says it is not to be doubted that it has a special action on the liver, and tends more to the restoration of a checked secretion of bile than any other drastic purgative. It never causes watery stools; but the dejections are always yellowish, greenish, or blackish, and slimy, and often have a peculiarly putrid smell (Dierbach). Antyllus counts it among the remedies which evacuate yellow bile. According to Noack and Trinks, it causes aching and tension in the right hypochondrium, bilious papescent stools, with heat of the whole body, and uneasiness in the region of the liver, while the evacuations produced are fæcal, bilious, not watery or copious, and emit a peculiar putrid smell. Its effects are so distinct and characteristic, that, when added to other purgatives, they do not take place until some hours after the evacuations caused by the other purgatives, and its stools differ both in color and smell.

4. A third set of physicians believe that it acts primarily and specifically upon the vena porta system, and assume that its influence upon the liver and bowels is secondary to this. Thus, Braithwaite says: "That it acts upon the vena portarum, is fairly to be deduced from the very peculiar state into which the hæmorrhoidal vessels are thrown by the congestions which so rapidly occur after a dose of this drug has been taken, and also by the condition of the uterine vessels, which has led to its employment as an emmenagogue." When frequently repeated, it is apt to irritate the rectum, giving rise in some instances to hæmorrhoids, and aggravating them when already existing; it also has a decided tendency to the uterus, for its influence in promoting menstruation is by no means confined to cases in which its action on the neighboring rectum is most conspicuous (Wood and Bache). Cullen has seen hæmorrhoids produced from large and frequent doses; it acts specifically upon the rectum, and, in a full dose, is in some persons apt to excite heat and irri-

tation about the rectum and tenesmus, while, in those troubled with piles, it is said not unfrequently to increase, but even to bring on the sanguineous discharge (Pereira). Fallopius says, that of 100 persons who had used aloes freely as a purgative, 90 became affected with a hæmorrhoidal flux, which ceased when its use was omitted; it causes a determination of blood to the uterus, and fulness of the bloodvessels, especially its veins, and thus uterine irritation and menorrhagia are apt to be induced or increased by it (Pereira). Wedekind says it exerts a specific stimulant action on the venous system of the abdomen and pelvis, and hence causes increased secretion of bile, irritation about the rectum, and vascular excitement of the sexual organs; piles, strangury, immoderate flow of menses, and racking pains in the loins, like labor pains, are frequently induced by it (Fothergill). The congestive power of aloes may go so far as to cause a flow of blood from the kidneys, uterus and rectum (Soternheim). It readily causes stagnation and accumulation of blood in the abdominal vessels, and various affections and consequences of Plethora Abdominalis; sometimes, even when given in small doses, it may cause congestions, anxiety, burning when urinating, urging to stool, increased pain in the loins (Vogt). It is a heating remedy, and in young persons readily excites febrile symptoms, quick pulse, troublesome sensation of warmth in the abdomen, &c. (Dierbach). Finally, the excited condition of the Vena Porta system may extend to the whole of the venous side of the circulation, and congestion, to the head and chest, but especially to the abdomen, may arise, attended with an unpleasant heat, anxious feelings and throbbing, with increased sensibility and distension of the abdomen, frequent watery stools, mixed with blood, or bloody stools with violent and cutting abdominal pains, piles, violent pains in the kidneys, scanty hot urine, burning when urinating, discharge of blood from urethra, drawing and burning in the sacral region, &c. (Noack and Trinks). Harnisch says, after the use of aloes in very sensitive or plethoric persons, we notice burning when urinating, tenesmus, aching and heaviness in the pelvis, erections and pollutions, an excitement of the hæmorrhoidal and uterine vessels, and even a similar action of the whole vascular system, so that the pulse becomes fuller and harder, the mouth dry with thirst, scanty discharge of red urine, increased sensation of warmth in the abdomen, throbbing and aching in the right hypochondrium (liver), congestion of blood to the head and chest, with anxiety, bleeding from the lungs, and even apoplexy.

To conclude the enumeration of the peculiarities of the action of aloes, we would state that, an increased quantity does not produce a corresponding cathartic effect; it is alleged by Lewis that its effects are more permanent than those of any other purgative, although Cullen contradicts this, and states that notwithstanding the use of aloes, costiveness will return at its usual period. Small doses often occasion erections, and increase of sexual appetite (Wedekind). Greenhow ascribes a diuretic effect to aloes, and Moirond injected 4 drachms into a vein of a horse, with no other effect than producing the evacuation of a large quantity of urine. It may cause emaciation, stricture of rectum and enteritis; and if given during pregnancy, in large doses, it may produce abortion (Vogt). If its use be long continued, it causes dryness of the intestines, paralytic-like rigidity of the muscular coat, especially of the colon and rectum, in consequence of which obstinate constipation may result; in too large doses it causes violent cutting abdominal pains, wa-

tery and long-continued diarrhœa, tenesmus and inflammation of the lower portion of alimentary canal (Voot). In Moirond's experiment of injecting 4 drachms into a vein of a horse, the fæces were passed enveloped in a thin pellicle of altered intestinal mucus. It causes discharges of membranous-like pieces of mucus from the rectum, and very large rolled-up pieces of intestinal mucus (Noack and Trinks). It has caused vomiting of blood. From very large doses, we at times get a watery diarrhœa, with violent cutting pains, or a long-continued sanguineous diarrhœa, with tenesmus and even inflammation of the bowels. Cullen says it was once a common opinion that aloes dissolved the blood, or increased its fluidity, and Lewis alleges that this is the condition of the blood drawn from persons who are in the habit of using aloetics, although, according to Schwenke, it seems rather to coagulate than dissolve the blood when added to some which has been drawn from a vein. It was an old opinion that it proved emmenagogue from its power of dissolving the blood, and hence was hurtful in scurvy, and all hæmorrhages proceeding from a lax state of the blood and system. It acts as readily in substance as in solution (Cullen).

Therapeutical uses and effects.—1. In disturbances of digestion dependent upon weakness of the muscular fibres of the stomach and bowels; in abnormal secretion of mucus, acid, gas, &c.; in anorexia, dyspepsia, flatulent distension, and painful aching in the region of the stomach, with acid, rancid eructations, sluggish digestion, and constipation, especially of hypochondriacal persons—(Sobernheim). It generally sits well upon the stomach, for its bitterness renders it an admirable stomachic, which promotes both appetite and digestion; some think that it regulates the due secretion of the gastric juice, while the ancients termed it the *anima ventriculi*.

2. But its principal use is in habitual costiveness and obstinate constipation from a long dilatation of the muscular fibres of the intestine, with dryness of the mucous membrane, diminished and abnormal secretion of bile; under such circumstances it is often the only remedy which may be used for years without injury. (Doses, 1 or 2 grs.)

3. In diseases of the liver, we have already alluded to Wedekind's experience with it in jaundice; as long as the stools remain light colored, he pushed it in large doses, viz., half a scruple twice a day; as soon as bile began to appear in the fæces, he immediately reduces the quantity to one or two grains, and even omits its use for one or several days.

4. In affections of the menstrual hæmorrhoidal secretions. The experience here is very curious; in former times it was regarded as the *sacra anchora* in the cure of hæmorrhoids of an asthenic character, although aloes produces active congestive piles. It was also used to restore the hæmorrhoidal flux, when troublesome nervous affections, such as hypochondria, melancholy, mania, cramp of the stomach, &c., were induced by their suppression. Five grains, several times a day, was then the usual dose. By restoring the hæmorrhoidal secretion, it has also relieved the sensations of aching and weight in the pelvis, the erections, pollutions, urging to stool, &c., which are often felt as premonitory phenomena of the occurrence of piles. At times these moliminal hæmorrhoidalæ pass over into flowing piles, under the use of aloes, while at others they cease without any discharge having been produced. Under the latter circumstances, Harnisch conjectures that the tonic and stimu-

lating effects of aloes removes the weakness of the vessels upon which the premonition of piles has depended, i. e., the active congestion produced by the aloes overcomes the passive one, which previously existed in his opinion. Locseke also asserts, that if aloes be given before the accustomed flow of piles comes on, the flux will ensue; but, on the other hand, if given while they are flowing, a stoppage will be effected. Irregular hæmorrhoidal congestion to the head, chest, stomach, bowels, liver, spleen, kidneys, uterus, bladder, &c., with their attendant redness and heat of the face, illusions of vision, threatened apoplexy, a constriction and anxiety about the chest, and even hæmoptysis, or throbbing, aching, &c., about the stomach, with hæmatemesis, or aching in the liver or spleen, with threatened dropsy, or hæmorrhage from the stomach or bowels, or aching in the region of the kidneys with scanty discharge of hot urine, or tenesmus of the bladder from venous congestion of it, and hæmaturia, or congestion to the uterus with menorrhagia, &c., have all given way before the use of aloes. (Harnisch.) Eberle corroborates the above in one particular (see Practice, vol. i., p. 572.) He writes: "Would not Dr. Dewey consider aloes a very improper remedy in the menorrhagias of young, sanguineous and robust females? He no doubt would; and why? because experience has shown that this article is among our most efficient means for exciting the uterine vessels and directing the afflux of blood to them. Yet this article, given in small doses but frequent ones, deserves to be accounted the best remedy we possess for those protracted, exhausting, and obstinate hæmorrhages from the uterus which occur in those of relaxed, nervous, and phlegmatic habits, about the critical period of life. When, therefore, we see a particular modification of this discharge arrested by a remedy which we are accustomed to regard as decidedly calculated to stimulate the vessels from whence the bleeding occurs: in other words, when we cure hæmorrhage by stimulating applications, the conclusion is irresistible that it depended upon debility."

The above is a good example of the very numerous instances in which a very close symptomatic similarity masks a very wide pathological difference. According to Andral, it is a law in pathology that very similar symptoms may arise from very different affections. It is notorious that anæmia is often attended by symptoms which render it liable to be mistaken for hyperæmia; thus the pulse may be frequent, vibrate violently, be deceptively hard and tense, while the heart palpitates and beats forcibly as in active congestion or inflammation; anæmia of the brain and spine is often attended with pain and throbbing in the head, delirium, ringing in the ears, sparks before the eyes, and general convulsions; the *apoplexia ex inanitione* may be attended with the vertigo, stupefaction, entire loss of consciousness, stertorous respiration, &c., which attend true apoplexy with effusion; bloodless lungs are dyspnoic; the bloodless heart palpitates violently; the bloodless stomach is dyspeptic, tender to touch, nauseated, &c. Bark and iron cure the above anæmic affections, antipathically, although they produce very similar symptoms, depending, however, upon the very opposite, i. e., a plethoric state of the system.

According to Symonds, the evacuations produced by the purgative which cures a diarrhœa, are very *different* from those that constituted the latter, and argue a dissimilarity in the state of the membranes that furnished them. The inflammation produced in the eye by the nitrate of silver is *different* in character from the inflammation which it is so

useful in removing," &c. In Fletcher's "Elements of Pathology," p. 486, we learn that "In the first stage of inflammation, there is constriction of the capillaries; in the second, there are relaxation and enlargement of these, allowing an increased quantity of blood in them, causing redness, swelling, heat and pain in the part. Now, if in the latter state of the vessels, a stimulus be applied, it must produce constriction or contraction of the enlarged vessels, and hence remove one cause of the disease, viz., the enlargement and relaxation of the vessels. Examples of the utility of stimulants in this second stage of inflammation are familiar in the treatment of ophthalmia and gonorrhœa."

Constipation may be cured antipathically by drugs, the marked action of which is to induce constipation. Thus, one of the most common causes of this state of the bowels is a torpid, relaxed, dilated, and enfeebled condition of the colon; now iron, lime, lead, alum, all which cause a constipation depending on a dry and contracted state of the colon, may cure the first-described condition. Nux vomica causes constipation, depending on a spasmodic state of the bowels, and may cure antipathically a constipation arising from a sub-paralytic state. Opium induces constipation by benumbing and stupifying the muscular fibres of the colon, and will cure constipation depending upon spasm, &c.

Again, admitting that Peruvian bark causes chills, fever, and sweat, this by no means proves that this remedy cures fever and ague homœopathically. For, in the first place, we have perused Hahnemann's description of the effects of bark on the healthy, repeatedly and carefully, and never have succeeded in finding any proof that it induces intermittent affections of any kind; much less a fever characterized by regularly periodical exacerbations and intermissions. In the second place, the bark-fever is an arterial congestive fever, while the intermittent is a venous congestive one. Professor Mitscherlich, of Berlin (see Mat. Med., 224), says, "From the long-continued use of bark, we notice an increase in the quantity of the blood, which also becomes more arterial in quality, hence the pulse becomes fuller and stronger, the skin, especially of the face, becomes redder, congestions ensue, and a *continued* fever may arise." Dr. James Johnson (see Med. Chir. Rev., Jan., 1837, p. 193), says: "If we watch the operation of Peruvian bark, we find that it excites the action of the heart and capillaries, increases the strength and invigorates the system. If pushed beyond a certain point, the bad effects that follow are just what might be supposed to result from an excess of the same sort of action; too much blood is made, and it is circulated with too much force. Sanguineous congestions or local inflammations ensue, and the whole system becomes overloaded and oppressed with blood." How different, nay, how exactly opposite, are the ultimate effects of fever and ague, viz., a cachectic, almost chlorotic, or leucophlegmatic state, marked by paleness and sallowness of the surface, a deficiency of fibrine in the blood, which becomes more venous and watery, and hence predisposes to dropsical affections, stagnations, and infarctions of the blood in the liver, spleen, &c.

Mercury produces ulcers and eruptions, but they differ widely from the syphilitic. The true Hunterian chancre, or indurated ulcer, against which mercury is most serviceable, is rather small, nearly circular, deep, and excavated, the base and edges as hard as cartilages, and is attended with little pain or inflammation, &c.; on the other hand, the mercurial ulcer is superficial, has a broad base, bleeds easily, is painful, and most

nearly resembles a phagedenic ulcer, while, according to Pereira, it is well known that venereal sores at times assume a sloughing disposition from the improper use of mercury. Hence it is evident that mercury is most homœopathic to the phagedenic variety of venereal ulcer." But in deciding on the use of mercury in syphilis, another point deserving attention is the condition of the primary sore; if it be of the kind called phagedenic, or at all disposed to slough, mercury must be most carefully avoided, as it increases the disposition to sloughing." (Pereira, Mat. Med., vol. i., p. 597.)

Mercurial eruptions are as rare as the syphilitic are frequent; of these, a vesicular eruption, the *eczema mercuriale*, is the most frequent and best known. On the other hand it is well known that "an eruption, having the vesicular form, and developed under the influence of a syphilitic cause, is unquestionably not a common occurrence." (Willis.) Rayer, too, speaks of syphilitic eczema as extremely rare, for in all his vast intercourse with skin-diseases he met with two examples only. An acrous, or indurated tuberculous, is the most common syphilitic eruption. We can readily conceive how a drug which tends to produce broad, superficial, spongy, and relaxed ulcers, may change the action of a narrow, deep, firm and hard ulcer; a drug which tends to cause vesicular, i. e., serous eruptions, may change the action of a tubercular one, which depends upon the pouring out of plastic and firm lymph from the blood-vessels, &c.

It is needless to multiply examples, for it is evident from those already given, that remedies which act very similar to the action of a given disease, in reality exert an *alterative* action upon that disease. In the earlier stages of his discoveries, Hahnemann recognized the truth of this position, for he states in the 45th paragraph of his "Organon," that "two diseases which *differ greatly* in their species, but which bear a strong resemblance in their symptoms, always mutually destroy each other;" and volunteers the admission in his "Spirit of the Homœopathic Doctrine," that "without this *natural difference* between the affection arising from the disease, and that arising from the drug, no cure could possibly take place, but only an exasperation of the evil." At a later period, he became so blinded and infatuated as to overlook the above irresistible conclusion, and in his precepts and practice even virtually to deny it, and set up the law, "*similia similibus curantur*," as the only true law in therapeutics; but, struggle as he would, all his attempts at explanation resolved themselves into old school theories, as is again evident in his assumption, that every remedy has two sets of actions, viz., primary and secondary, the latter of which is exactly opposite to the former; whence he again assumes that, although the primary action of homœopathic remedies is similar to that of the disease, yet their secondary one is exactly opposite, and is willing to admit that this secondary opposite action effects the cure.

"We have names, diseases, remedies, notions, theories, and explanations different from those of olden times; but the art of healing is still the same, nature is the same, and the same capacities are required for becoming an adept in medicine, as at the time of Hippocrates."—(Hufeland.*)

---

* See "Enchiridion Medicum."

ART. III.—*Green on Asphyxia of New-born Infants.* By HORACE GREEN, M.D., of New York.

THE attention of the profession has not been called sufficiently to this subject.* The causes which operate to produce asphyxia, and the pathological condition of those children that are born in an asphyxiated state, are alike but imperfectly understood. Hence the means employed to restore still-born infants to life, although in many instances successful, are consequently empirical.

The doctrine of some of the French pathologists, that asphyxia is dependent upon an engorged condition of the liver, will not explain some of the secondary symptoms which follow in many cases of recovered animation. It is the opinion of Cruveilhier, whose extensive experience at the Maternité entitles his opinions on this subject to much credit, that apoplexy is the cause of death in one-third of those children who die during the progress of labor. The pathological condition of the brain of such as die of fœtal apoplexy, is "an effusion of liquid blood within the cavity of the arachnoid."† But, as these cases of apoplexy from effusion within the brain, are attended almost constantly with "collections of blood under the hair scalp," the disease, in such cases, would seem to depend upon the length and tediousness of the labor; whereas, many cases of asphyxia will be found to have occurred when the brain cannot have suffered from compression during labor, namely, after easy and very rapid deliveries. On the other hand, we frequently have protracted and tedious labors, attended with extensive ecchymoses of the scalp, with displacement of the cranial bones and elongation of the head, without any apparent injury to the child. Hence, although effusion of blood within the brain may be, and undoubtedly is, the cause of death in some cases, it cannot be in all. Nor can we explain why this fœtal apoplexy should occur in some cases and not in others.‡

Although my own attention has been particularly drawn to this subject for the last fifteen years, I am not able to throw any new light upon the causes producing this condition, or the pathology of the complaint.

---

* The importance of the subject may be seen from the result of an examination which I have just made of the "Bills of Mortality," as they are kept in the office of the New York City Inspector. From this examination, it appears that the number of still-born children within the limits of this city alone, during the ten years preceding, and ending with 1844, amounts to 5957! averaging nearly six hundred to each year. The number amounted the last year to seven hundred and forty-one.

The ratio of dead-born to the number of births, cannot be accurately ascertained; because a register of births, from some unaccountable neglect on the part of our city authorities, is not kept. But there is one dead-born to fifteen births, a larger proportion, probably, with the exception of Paris, than in any other city or country in Europe.

According to M. Foissac, there is one dead-born to nineteen births in Paris, one to twenty in Berlin, one to twenty-four in Vincennes, one to twenty-seven in London, and one to thirty-six in Stockholm. The mean average for all Europe is one to twenty-two.—*De l'Influence de Climate sur l'Homme, par P. Foissac.*

† Anatomie Patholog. du Corps Humaine.

‡ There is an interesting fact stated by Foissac with respect to the relative numbers of still-born in the two sexes. It is that "the mortality is greater among boys than among girls." Throughout every country in Europe, it has been ascertained that the number of still-born among boys is nearly one-third greater than among girls. The same fact has been observed to occur in this country, but it is confined to the white population. This disproportion, it has been observed, does not occur among the blacks.

During this period I have had many opportunities for resuscitating still-born children; and my purpose, at this time, is, to call the attention of the reader to that condition or sequence, that, in my experience, has followed in those cases where long-continued efforts have been necessary to restore animation.

The method which I have pursued has not differed materially from that which is laid down in many of the modern systems of midwifery; and where I have been successful, as I have been in many apparently hopeless cases, it has been owing more to a long-continued perseverance in the generally approved plan, than to any original method of my own. In several instances I have succeeded in restoring life to still-born children, where more than one hour had elapsed from birth before any or but slight symptoms of returning animation were exhibited. In other cases, where even no symptom of life was evinced at birth, except, perhaps, a slight tremulous motion in the regions of the heart, it had been necessary to make the attempt for a few minutes only, before a slight inspiration would give evidence of returning life, and by continuing the efforts for a short time longer, regular respiration would be completely established. Infants thus readily restored to animal life, are as certain to live, perhaps, as those who cry strongly at birth. But, in those cases where fœtal life was suspended at birth, and where, to effect re-animation, such long-continued exertion has been found necessary, I have been invariably doomed to disappointment, from inability to prolong that life which I had been instrumental in restoring. In all these instances, death from *convulsions* has occurred in less than thirty-six, and generally within twenty-four hours from birth.

The existing cause of these convulsions I have never been able to understand, and, consequently, have failed in obviating.

From a number I have selected the two following difficult cases, which will be sufficient to show the method I have employed for recovering still-born children, the length of time required, the sequence, &c.

Case 1.—March 25th, I was called to attend Mrs. F—, who had previously been delivered of several children. Some necessary delay, on my part, occurring, I found, on arriving, that she had been delivered of a still-born child, half an hour previous to my arrival. From the woman's account who acted as midwife, I learned that the labor was a natural one and the delivery rapid; "but the child was born," she affirmed, "without any sign of life," and she had laid it away, enveloped in a blanket, in one corner of the room. For fifteen minutes after I entered the room, the mother required my attention, and the infant was still left in the blanket. On examining the child, when at liberty, I found it with every appearance of having been alive during labor, or at the time labor commenced. There was no discoloration of the skin, nor any signs of putrefaction. On the other hand, no pulsations of the heart existed, or any other appearance of life. Discovering no good reason for its death, I concluded it was asphyxia, from some cause, and I determined to make a powerful effort to resuscitate the body.

At first, my intentions were opposed by some of the women in attendance, who asserted that, as the parents were poor and had several children already, "it would be no deed of benevolence to bring the infant back to life." But these *unmotherly* sentiments were silenced, and their assistance secured, by my relating to them the anecdote of the birth of Sir Isaac Newton, and assuring them that most still-born children that *lived* were sure to become remarkable personages.

The child was first placed in a vessel of warm water, and kept in for a few minutes until the surface became warm. It was then taken out, wiped dry, and enveloped in a soft warm blanket. After clearing the mouth and fauces of all mucus, I commenced the alternate action of inflating the lungs with air (by applying my mouth to that of the child), and pressing it out with my hand upon its chest, whilst an attendant was constantly renewing the heated cloths. Continuing this process steadily *for thirty minutes*, together with frictions to the extremities, to the soles of the feet and the palms of the hands, at the end of this period I could distinctly perceive a faint, tremulous motion in the region of the heart. On removing the ligature which the midwife had applied to the fœtal part of the umbilical cord, I succeeded in pressing out a few drops of blood, and the heart could then be felt beating distinctly and rapidly. The flow of blood increasing, the ligature was re-applied, after a spoonful or two had escaped, and the artificial breathing continued. In a few minutes longer a single convulsion-like inspiration of the child gave another sign of life, and encouraged us to continue our efforts. The inflations were continued at regular intervals, lengthening those intervals as the infant showed ability to breathe for itself, for one hour and a quarter, from the time we commenced, when the child was sufficiently restored to be put to bed with its mother. This child lived twenty-four hours, breathed freely, and had every appearance of doing well, when the sudden occurrence of convulsions carried it off before any relief could be obtained.

Case 2.—On the 1st of June I attended the wife of the Rev. Mr. C—, at her second lying-in. On her previous and first confinement, she was delivered, as I was informed, of a still-born child. She had completed her full time, when labor commenced. The position was regular; of the first presentation, and the pains efficient: but as the head descended into the pelvis, and particularly at the lower strait, the pains became flagging. At this time I perceived one or two jerks of the head—the same as often occur when the head is detained too long in the breech presentation. Aware of the dangers that this sign indicated, I immediately gave ten grains of the ergot, and in less than twenty-five minutes the child was born. The cord was not around the neck, as I had anticipated, and yet the infant exhibited not the least sign of life. There was no pulsation of the cord, or in the region of the heart; and in dividing the former, a few drops of blood only escaped. I immediately commenced efforts to resuscitate the child.

The usual method was pursued (which was the same as laid down in the former case) and perseveringly pursued, in this instance, for one hour, before the child showed but slight symptoms of life. The first evidence of returning animation was a slight pulsation in the region of the heart, soon followed by a short spasmodic inspiration. The inflations were repeated at intervals, until regular respiration was established.

This child breathed with considerable regularity, and showed a disposition to nurse, when put to the mother's breast. Its respiration, however, was never entirely free; and, in about twelve hours from birth, this difficulty increasing, convulsions occurred and destroyed the child.

I have been thus particular in giving the circumstances connected with these cases of asphyxia, that the reader may be enabled thereby the better to judge of the cause or causes which operated to induce the convulsions.

It is the opinion of Girardin, Burns, Moreau, and some other obstetrical

writers, that the child is more frequently still-born after the use of the ergot of rye; and it may be supposed that, in many of the cases to which I have alluded, the employment of this article may have been the cause of asphyxia. There is no doubt that, when improperly administered, the ergot may have a tendency to produce this fatal effect upon the infant; either by exciting a poisonous influence upon it, through the system of the mother, or by inducing that state of permanent contraction of the uterus, by which the placenta is detached, or, so compressed as to arrest the fœtal circulation before respiration is established; but in the severe cases of asphyxia which have fallen under my observation, the ergot has been employed in the single case only which I have reported.

It may be well here to remark, that, in recovering still-born children, I have depended more upon inflation of the lungs, regularly and perseveringly continued, than upon all other means. Dr. Scott, of London, in his work on "The Use of Lavements," says that "many still-born children have been resuscitated by the administration of stimulating injections."* But lavements were Dr. Scott's hobby; he would have prescribed them for a whitlow!

Various methods for doing this have been recommended by different obstetricians; but, in my opinion, it should only be done by applying the mouth of the operator to that of the child; the latter being wiped dry, and covered with a piece of clean thin muslin. In this way the lungs can be more perfectly inflated than by any other method. Besides, the warmth thus imparted to the chest is of undoubted service in exciting the cardiac action.

I am convinced, from my own experience, that most still-born children who are alive during parturition, can be resuscitated by the above method, provided the inflations and other means be continued for a sufficient length of time; and if any plan could be devised to prevent the occurrence of convulsions, where asphyxia has been long continued, the lives of many still-born children, that are now lost, might be saved.

ART. IV.—*Wound of the Axillary Artery and Plexus of Nerves.—Amputation below the Shoulder-joint.—Secondary Hæmorrhage.—Ligature of Subclavian Artery.* By ALFRED C. POST, M.D., Surgeon to New York Hospital.

GOTTFRIED SPERLIN, a ropemaker, of good constitution, 37 years of age, a native of Alsatia, was admitted into the New York Hospital on the morning of the 16th November, 1843. During the previous afternoon, while he was engaged in cutting hemp with a large and sharp instrument resembling a scythe, the edge of the instrument came into contact with his right arm in the axilla, and divided all the soft parts down to the bone by a transverse wound including half the thickness of the limb. The axillary artery and vein, and the brachial plexus of nerves, were of

---

* Scott on Lavements, p. 127.

course divided. The accident happened at Williamsburgh, on Long Island; and Dr. Cox, of that village, was fortunately in the vicinity, and secured the axillary artery with a ligature within a few minutes after the wound had been inflicted, but not until the patient had lost a very large quantity of blood. On the following morning, when the patient was brought into the hospital, the limb was exceedingly swollen and cold, and the symptoms of incipient gangrene were so manifest, that at a consultation of the surgeons in the hospital, it was unanimously agreed that immediate amputation should be resorted to. I accordingly removed the arm, by a double flap operation, about two inches below the head of the bone. The axillary artery being denuded for some distance above the ligature which had been previously applied, I placed a second ligature around it three quarters of an inch higher up. The parts incised were found to be somewhat infiltrated with blood. The edges of the wound were brought together, and secured in the usual manner by sutures and strips of adhesive plaster. Union did not occur by the first intention, but free suppuration was established within 48 hours after the operation. Tonics and generous diet were administered, and everything went on favorably until the 30th November, about half an hour after midnight, when he was awakened from his sleep by a feeling of pain in the stump, and the trickling of a warm fluid. The ligature had come away a day or two before. The house-surgeon, Dr. Conger, was immediately sent for, and on his arrival he found that there had been an arterial hæmorrhage, supposed to amount to about twelve ounces, and that it had ceased spontaneously. I saw the patient soon after and summoned a consultation of the surgeons, at which my colleagues, Drs. Cheesman, Hoffman, Buck, and Watson, were present. The dressings were removed and the stump examined: there was no return of the hæmorrhage, and the vessel from which it had proceeded was not to be seen. It was agreed that the wound should be left open, being nearly covered with lint, which was directed to be kept constantly wet with cold water. The patient was watched for several days by a succession of medical students, who were directed to compress the subclavian artery against the first rib, if the hæmorrhage should return. There was no further bleeding until the 6th December, between 12 and 1 o'clock in the middle of the day, when a profuse arterial hæmorrhage occurred suddenly and without warning. The quantity of blood which was lost amounted to at least a pint: it had soaked through the mattress upon which he was lying, and formed a puddle upon the floor. I was in an adjoining room, and was immediately sent for; on my arrival, I compressed the subclavian artery against the first rib, and in this manner restrained the hæmorrhage, but not without considerable force. Doctor Watson, who was at the time in the hospital, was sent for, and compressed the artery below the clavicle, while I proceeded to perform the operation of securing the vessel, where it emerges from between the scaleni muscles. During the operation, a slight wound was inflicted upon the external jugular vein, and a bubble or two of air entered with an audible gurgling sound: the further entrance of air was promptly arrested by the application of Dr. Watson's finger upon the wounded vein. A ligature was applied to the suprascapular artery, which presented itself in the wound: this vessel being drawn aside, I could feel the pulsation of the subclavian artery where it crosses the first rib. I then denuded the artery of the fascia and cellular tissue covering it, and without any difficulty passed a ligature

under it by means of Sir Philip Crampton's admirable needle. Before tightening the ligature, the artery was distinctly seen pulsating over it, by Dr. Watson and the students who were present. After securing the artery, a firm compress of lint was applied over the wound of the jugular vein, and the edges of the cutaneous incision were brought together by means of sutures and adhesive plaster. After the operation, the patient appeared very much exhausted: but he gradually rallied under the influence of stimulants and tonics. Suppuration was freely established within a few days, and the compress of lint, which had been left within the wound, was discharged with the matter. The ligature, which had been applied to the subclavian artery, came away on the 2d January, 1844, 27 days after it had been applied. The following report was made on the 19th January. The wound on the clavicle is slowly contracting and healing at the edges. The stump is nearly healed; but a portion of the extremity of the bone is denuded, being overlapped by fungous granulations, and it will, no doubt, exfoliate. The patient is still taking tonics: his appetite is good, and his general condition much improved.

On the 9th April, he left the hospital in good health, the wound over the clavicle being healed with the exception of a point not much larger than a pin's head. The stump was very nearly healed, there being no longer any exposed bone.

On the 1st January, 1845, he called at my house to thank me for the services which I had rendered him, and left a very beautiful coil of rope as a testimony of his gratitude.

ART. V.—*Case of Internal Uterine Hæmorrhage.* By Prof. C. B. COVENTRY, M.D., of Utica, N. Y.

THE following case being one of unusual occurrence and of some interest, I have taken the liberty of sending a brief notice of it for insertion, should you deem proper, in your journal.

I was called, on the afternoon of the 9th of September, 1842, to Mrs. M., pregnant with her fourth child, supposed to be about eight months advanced in pregnancy. Mrs. M. has a feeble constitution, and has suffered severely from derangement of stomach during the whole of her pregnancy. On the 8th, she received a shock, in an effort to prevent a child falling from a high stoop; from which time, she had more or less pain in the back. On the morning of the 9th, she walked about a quarter of a mile. I first saw her about 4, P. M.; found her with pain in the back, of an intermitting character; great pallor of countenance, os uteri very little open, and the neck of the uterus not fully developed. Mrs. M. had been vomiting and purging before my arrival, and still complained of sickness at the stomach. Anodynes were directed, with perfect rest, and a sinapism over the region of the stomach. 9, P. M., the pain in the back has subsided; sickness at the stomach continues; has fainted twice on attempting to get up to void urine; pulse very feeble. This state continued through the night; towards morning, a small quantity of stimulants were given, and the prostration was rather less, though she

cannot be placed in an erect position without fainting. Saturday, 10th, 12 o'clock, continues much the same; mouth of the uterus open to the size of a half dollar, and relaxed; yields readily to pressure; abdomen very much distended and irregular; apparently projecting more at one point than at any other; membranes quite tense, but no labor pains. As no urine had been voided, with the knowledge of the patient, since yesterday morning, I introduced the catheter; but very little urine was discharged. No motion had been felt since the morning of the 9th. Apprehensive, from the first, that the prostration might arise from internal hæmorrhage, I had determined, if I found my patient sinking, to rupture the membranes and deliver. I had left my patient, for a few minutes, when, contrary to my express injunction, she had insisted upon getting up to use the night-stool. When up, she was seized with hæmorrhage, and lost half a pint of blood when on the stool. A messenger was despatched for me; I found her still flowing, pulseless, and faint. I immediately ruptured the membranes, instituted friction over the uterus, and in half an hour she was delivered of a dead child. The flowing had ceased immediately on rupturing the membranes; no blood followed the expulsion of the child; but when the placenta was delivered, it was followed by a large mass of coagulated blood, revealing the source of the difficulty. The uterine surface of the placenta was covered with blood of the same description. In this case, the blood had undoubtedly been effused between the placenta and uterus. From this period, Mrs. M. continued gradually to recover, though it was some days before she could keep the erect position, without becoming faint.

ART. VI.—*Remarkable case of Compression of the Spinal Cord, in which the compressing vertebræ were removed.* By H. A. POTTER, M.D.

(Reported by T. C. and W. P. Hurd, M. D.)

ON the 23d of February, 1844, Oliver Eddy, of Union, Branch county, Michigan, an athletic, healthy young man, aged about 21 years, while engaged in felling a large basswood tree, was struck down by the falling of a limb. The limb, which was five inches in diameter, and seven feet in length, fell, without obstruction, from the height of about sixty feet, and was seen, by the man at work with him, to hit him upon the back of the neck, as he stood leaning slightly forward. The blow produced no bruise or discoloration, although it left him senseless, in which state he was carried to the house, a distance of nearly one third of a mile. By this time, the breathing had become stertorous, the whole surface was cold, the pulse slow and almost imperceptible, continuing thus through the night, notwithstanding warmth, friction, and stimulants were perseveringly used.

On the morning of the 24th, he was bled freely, but without any perceptible improvement The stertorous breathing continued, and the pulse remained small.. He vomited often during the day, and hiccoughed occasionally. The expression of his countenance was bad. A cathar-

tic of sal epsom and senna was administered, and by the aid of an enema, an operation was secured in the course of the day, still without improvement.

On the morning of the 25th, the catheter was introduced. During the day, and for the first time, he was aroused from his insensibility, though immediately after he relapsed again into a state of lethargy. During the night his pulse sank vomiting followed at short intervals, a general coldness pervaded the body, and death seemed about to close the scene.

On the 26th the vomiting subsided, warmth was restored, the patient was easily aroused, his pulse was at about seventy, and he received some nourishment. On this and the following day, large quantities of pus passed from the bladder after the catheter was withdrawn; and from this time the discharge of pus was enormous, amounting to from a pint to a quart daily, for two weeks or more. These discharges were exceedingly offensive; nor did they abate till some time in the third week, when abscesses formed on the back, covering for a while almost the whole dorsum. The muscles over the sacrum sloughed off, leaving the sacrum bare. One abscess formed in the glutei muscles, and extended down to the knee. Upon opening this, it discharged nearly a quart of healthy pus, and continued afterwards to discharge daily from half a pint to a pint for several weeks.

There was no motion nor sensation below the upper part of the thorax. The patient could not tell when he was pricked, nor handled, unless moved so much as to stir his neck; in that case the sensation was very great. Walking across the floor so as to jar his bed, caused great pain.

At the expiration of about three weeks from the occurrence of the injury, his general health had considerably improved; his appetite was good, his skin became soft and natural, he rested well nights, and nature seemed to be accommodating herself to his condition. This favorable state continued some eight or ten days, when the symptoms became again unfavorable;—such as restlessness, much of the time contracted and shrivelled skin, resembling, more than anything else, that upon the leg of a turkey; pulse small and quick. In this condition he remained for a week, affording but little hope that he could survive; when, unexpectedly, he began to improve again, which he continued to do for another week. Then followed a like period of unfavorable symptoms, attended with hectic fever. Thus nature seemed to strive with the injury, alternately gaining and losing, until about the first of May, when the improvement became more permanent. He gained some flesh, healthy granulations formed around the abscesses, the upper part of the back cicatrized over, the discharge from the abscesses diminished, and it seemed somewhat probable that, if he did not entirely recover, he might still live for a considerable time. However, near the last of May, after the discharge from the abscesses had materially lessened, he began to expectorate pus, and his general health appeared to decline.

It will be proper at this point to give some account of the treatment which we pursued during this period. After making use of stimulants, cathartics, venesection, &c., we had recourse to cupping and blistering, although without obtaining the desired results. Having seen ergot recommended by M. Payan, in Braithwaite's Retrospect, as operating primarily on the spinal cord, and successfully used in Paraplegia, and likewise in cases of injury of the spine, we concluded to try that, which we

did, administering it in drachm doses for about ten days. No effect, however, was susceptible, except that it appeared to operate as a diuretic, —from three to four quarts of urine being discharged in twenty-four hours, which (as well as the pus before mentioned) was exceedingly offensive. We next employed nux vomica (not having strychnine), in substance and tincture, but with no better effect. After the hectic symptoms appeared, we made free use of tonics, and allowed the patient a generous diet. Thus he continued for more than three months unable to move a finger, or a toe, or to tell by feeling when he was handled.

On the 3d of June, Dr. H. A. Potter, then of Bethel, Ontario Co., N. Y., but now a resident in the neighboring village of Battle Creek, Calhoun Co., this state, while passing through our place, called on us, and we invited him to visit our patient, which he did. After careful examination of the case, he pronounced it compression of the spinal cord; and suggested that it might be removed by an operation. But as he had never heard of an operation being performed in the like instance, it was with some delicacy that he recommended this course. It was, however, deemed best, and was readily assented to by the patient. Accordingly, on the following day, in the presence of Dr. Hanchett, of Coldwater, and his two students, ourselves, and some of the friends of the patient, Dr. Potter performed the operation. He commenced by making a bold incision from the second cervical to the third dorsal vertebra, directly over the spinous processes. He next, with much difficulty arising from the collection of ossific matter, separated the integuments from the spinous processes down to the body of each vertebræ, removed the processes, and made an incision into the intervertebral substance, between the third and fourth cervical vertebræ, so that he could introduce the end of his forceps. It should be remarked here, that, after trying many different instruments without effect, he at length resorted to the bone forceps, commonly found in amputating cases, with which the bone was readily sheared; and, it is thought, that this or a similar instrument will be found to answer the best service in like cases. He then proceeded to remove the spinous processes and portions of the vertebræ, piece by piece, till he came to the spinal cord, when, as soon as there was room, he introduced the handle of a small scalpel under the compressing vertebræ, so as not to injure the cord, while he continued to use the forceps. Proceeding in this manner, he removed parts of the four inferior cervical and the two superior dorsal vertebræ. The vertebræ were so much ossified, as to render it extremely difficult to ascertain the precise point of compression. There appeared, however, to be but four that were fractured so as to produce compression, although the spinous process of the two inferior ones removed, were more or less fractured. In the whole, ossification had taken.

All the physicians present had an opportunity of observing the spinal cord, and of seeing and feeling its pulsations. Before the operation ended, the patient said he felt as though we were pricking him all over. Sensation appeared to return almost instantaneously, and for the first time that he was conscious of it, below the compression, after the receipt of the injury. There was very little hæmorrhage, not enough to make it necessary to tie an artery. The patient bore the operation remarkably well. Four or five hours afterwards, we saw him, and he could readily tell which foot or toe we touched. Sensation was nearly perfect, except in the limb in which was the abscess:—in that it was less natural. He

had some difficulty in expectorating, which had existed for several days previous; otherwise he rested well. The discharge from the abscesses, which, for four or five days, had been somewhat diminishing, now entirely ceased. From this time, pus was expectorated in large quantities. The wound made by the operation, gave but little trouble. Healthy granulations formed and filled up the cavity, and cicatrization commenced around the margin. But the expectoration and difficulty of breathing increased; and the patient died on the 22d of June, eighteen days after the operation, and four months from the time of receiving the injury, apparently from suppuration of the lungs, but little inflammation having ensued from the operation.

We think that the operation, if it had any effect upon his life, tended to lengthen it; and had it been performed at an early period after the injury occurred, we are of opinion that his life might have been saved. The operation, which occupied about forty-five minutes, was well and skilfully performed. From our particular acquaintance with this case, we are clearly of opinion that, in all similar cases, a similar operation should be performed.

Union, Branch County, Michigan, 16th Dec., 1844.

ART. VII.—*Notes on the Legal Relations of Insanity.* By CHARLES A. LEE, M.D. From the American edition of Guy's Principles of Forensic Medicine.

THERE is no subject connected with legal medicine, so important, and yet so difficult, as that of the legal relations of insanity. It has, for the last half century, called forth the efforts of the ablest men, both in law and medicine, and yet, judging from late judicial opinions and decisions, the principles, on which civil and criminal responsibility rest, are as far from being settled, as ever. We have seen that the English judges, in the case of McNaughton, have laid it down, as a rule to regulate all future cases, that, in order for the allowance of the plea of insanity, undoubted evidence must be adduced, that the accused was of a diseased mind, and that, at the time he committed the act, "*he was not conscious of right or wrong*," and also, "that if the *delusion* under which a person labored were only *partial*, the party accused was equally liable with a person of sane mind."

In the case also of Greensmith, who, in a fit of homicidal insanity, murdered four of his children, it was laid down by the judge, that "the complete possession of reason is not essential to constitute the legal responsibility of an offender;" the prisoner was consequently found guilty and sentenced to death. But who does not see that such a test cannot enable us to distinguish the insane homicide from the sane criminal?*

---

* It would not be difficult to quote many cases which have occurred in this country, where insane persons, it is believed, suffered death for acts of homicide.

In the year 1785, a man by the name of Goss was executed at Litchfield, Conn., for

We have already related cases, where insane persons have committed acts which they knew to be wrong, and of the criminality of which they were perfectly conscious. They have, in repeated instances, committed murder, in order to receive the punishment of death at the hands of the law; and, therefore, were aware of the consequences of the act, and that it was in violation of the law. In the case of Hadfield, it was clearly proved that, in shooting at George III., he knew that he was doing what was contrary to law, and that the punishment of death was attached to the crime of assassination; "but the motive for the crime," says Taylor, "was that he might be put to death by others—he would not take his own life." So in the case of Martin, who set fire to York Cathedral, he admitted that he knew he was doing wrong, and that the act was illegal, but he said, he had the command of God to do it. This test, then—"a consciousness of right and wrong," is utterly impracticable and insufficient, and were it to be applied in criminal cases, would, in numerous instances, lead to judicial murder, or, in other words, to taking the life of the really insane. The American Law Magazine, for January, 1844, in a very able article, lays down the following test:—"If there be *a total permanent want of reason*, as exhibited in mania or idiocy, or if there be *a total temporary want of it*, as shown in morbid delusion, the judgment of the law cannot take place." "Such," it adds, "are the degrees of insanity, the existence of which will excuse the commission of crime. They are the only degrees recognized by the authorities. They constitute the law." And yet this is the very doctrine of Lord Hale exploded by Erskine, in the case of Hadfield. The Attorney General had laid it down as a settled principle, that "to protect a person from criminal responsibility, there must be *a total deprivation* of memory and understand-

---

the murder of his wife. It appeared in evidence, that for more than a year previous, he had labored under an idea that witches haunted him; and under the impression that his wife was a witch, he justified his conduct in depriving her of life—under such infatuation, he ordered his attorney, in most peremptory language, not to apply for a reprieve to any human tribunal, alleging that his Heavenly Father had forbidden all such proceedings. He called himself the second Lamb of God; said he was brother of Jesus Christ, and that he was the child born of the woman mentioned in the Revelation of St. John, &c. He persisted to the last, that the sheriff could not hang him; that the Almighty would interpose if the attempt were made, and that 30,000 males, above 15 years of age, would be killed by the shock in North America. In this state of mind he was hung, to the great satisfaction of the people, it is stated, who believed him "hardened in guilt," &c.—*Conn. Hist. Collections.*

Charles Cook, a poor laborer, was executed near Schenectady, N. Y., Dec. 18, 1840, for the murder of Mrs. Murray. It was proved that he had, a few months before the commission of the act, been in a state of the wildest fury—roaming the streets with no other clothes on than his shirt and boots, keeping off the crowd by swinging his pantaloons, and proclaiming himself "their bleeding Saviour." He was with difficulty secured, by being entangled in a rope and committed to jail as a lunatic. He was at times gloomy and stolid—occasionally highly nervous and agitated—his suspicions and sense of offence quickly aroused—he looked upon mankind in general, as enemies and persecutors, moaning to himself and uttering inarticulate sounds. After reviewing the whole case, Mr. J. L. O'Sullivan remarks, "it would certainly seem that there could be no doubt of the insanity of this poor wretch." There prevailed, however, a strong exasperation against him, and he was hung, persisting that "he thought he had done right, and under the same circumstances, would do so again."

There have been four or five capital punishments inflicted in this State during the last few years, where there is good reason to believe that the persons were laboring under insanity at the time of committing the acts for which they suffered.

ing,"—to this Mr. Erskine truly replied, that "no such madness ever existed in the world." "In all the cases," said he, "that have filled Westminster Hall with the most complicated considerations, the lunatics and other insane persons, who have been the subjects of them, have not only had memory, *in my sense of the expression*,—they have not only had the most perfect knowledge and recollection of all the relations they stood in towards others, and of the acts and circumstances of their lives, but have, in general, been remarkable for subtlety and acuteness. Defects in their reasonings have seldom been traceable—the disease consisting in the delusive sources of thought—all their deductions, within the scope of their malady, being founded on the *immovable* assumptions of matters as *realities*, either without any foundation whatever, or so distorted and disfigured by fancy, as to be nearly the same thing as their creation." *Delusion*, as has already been stated, was the test laid down by Erskine, and admitted by the court; and yet, in the case of Bellingham, for the murder of Mr. Percival, twelve years afterwards, Chief Justice Mansfield declared, that "if a person were capable of distinguishing *right from wrong*, there was no excuse for any act of atrocity which he might commit under this description of derangement."—Russell on "Criminal Law," echoes the same opinion. Lord Lyndhurst, in the case of the King *v.* Oxford, directed the jury to acquit the prisoner, if satisfied, "that he did not know, when he committed the act, what the effect of it, if fatal, would be, with reference to the crime of murder!" These tests, we are now gravely told, must be laid aside, and we must go back to Hale's opinion, that the *total deprivation of reason* alone, can exempt from criminal responsibility.

The practice, however, of American courts, we are happy to know, is guided by more liberal doctrines. In the trial of Lawrence, at Washington, in 1835, for shooting at President Jackson, the court directed the jury to regulate their verdict by the principle laid down in Hadfield's case, namely, that a person is not responsible for whatever criminal act is committed under the influence of *delusion*. In the case of Wilson, tried in York County, Maine, in 1836, for the murder of his wife, in a paroxysm of insanity, the jury were advised by the court to bring in a verdict of acquittal, provided they were satisfied that the prisoner was not of *sound memory and discretion*, at the time of committing the act. In the case of Rogers, however, who was tried in Massachusetts, in 1842, for killing Mr. Lyman, the warden of the state prison, Chief Justice Shaw remarked, that "if the prisoner had the capacity to distinguish between right and wrong, as to the particular criminal act, he was responsible." "Although laboring under partial insanity," he continued, "if the person understands the nature and consequences of his act, then he is responsible for it." (The fallacy of such a test has been already sufficiently exposed.) But we have dwelt long enough, perhaps, upon the vagueness and unsatisfactory character of the tests, which have usually been laid down by our courts, and by which we are to decide in relation to civil and criminal responsibility. While we fully coincide with Dr. Beck in the opinion, "that there must be some rule to guard the sacred interests of society; something to repress and keep in check that tendency to shed the blood of his fellow, which unfortunately is too common:" we must at the same time, express our conviction that, if the test quoted from Lord Lyndhurst, by Judge Dayton, or Chief Justice Shaw, be relied on, the life of the insane will inevitably be taken "by judicial process." The

knowledge of laws, whether human or divine, does not imply the control of the *will*. The possession of conscience does not prove that instinctive impulses may not be too powerful to resist. The remarks of Leuret, quoted apparently with approbation, are of momentous import. "The criminal has conscience, liberty, will. The monomaniac has conscience, without liberty. Thus, some will withdraw themselves when they feel the disposition for committing injury. If this reasoning be correct, can such a person be held responsible for his actions, even if he knows what he is doing?" Would not the difficulties which complicate this whole subject be in a great measure removed, if the laws were so amended, as, in cases of *alleged or doubtful insanity*, to substitute imprisonment for life for the punishment of death, where the latter would be inflicted, provided the individual was sane? To such a result, science, philanthropy, and the spirit of the age, unquestionably point.

As the charge of Chief Justice Shaw in the case alluded to, is a very fair exponent of the views now entertained by our courts, in relation to the principles involved in the Medical Jurisprudence of Insanity, we shall present the substance of it in the following extract:

In the case of Rogers, indicted for the murder of Mr. Lincoln, warden of the Mass. state prison, at Charlestown, in 1843, Chief Justice Shaw remarked, "to commit," said he, "the crime of murder, a person must be of competent understanding—a child incapable of distinguishing between right and wrong, a furious madman, or an idiot, could not, of course, be guilty of murder. If there were no will, no power of judging of the nature of actions, no conscience, or if the power of the understanding were obliterated by controlling mental disease, there could not be guilt. These were extreme cases—in all such the general rule of law was so plain and simple that they were never brought to trial. The difficulty was in the vast number and variety of intermediate cases, to which no general rule could be made to apply. Such were cases of partial insanity, where the understanding was perverted by insane delusions, influencing the subject of them to believe in the existence of a false state of facts, where there was some capacity; and the question then was, whether that degree of capacity was sufficient to enable the individual to distinguish between *right and wrong*, or there might be cases of monomania, in which the mind of the patient was sane upon all subjects but one.

In these cases, the afflicted person might be capable of reasoning correctly, of drawing correct inferences, but as this reasoning was built upon a false foundation, as the facts from which these inferences were drawn had no existence but in the inflamed imagination of the sufferer, the conclusions were false. In these cases, the man was not excused if he had the capacity to distinguish between *right and wrong as to the particular criminal act*. Again, a person might be of unsound memory, incapable of understanding the relations of things, or his duty to others. But, although laboring under partial insanity, if the person understands the nature and consequences of his act, then he is responsible for it. Then if the prisoner's mind had been proved unsound, the question would be whether his mental disease overpowered his reason and his judgment, so that his act was the result of an uncontrollable impulse. In that case, it would be an act of his body, rather than of his mind. The evidence here, had been of partial insanity—melancholy, accompanied by mental delusion, or hallucination. This delusion, or morbid belief, might or might not exist; but where it really existed, it would justify acts commit-

ted under its immediate influence, which would have been justifiable had the supposed state of facts really existed. For instance, if a man should sincerely think that another, who was coming towards him in the kindest manner with a present, was advancing with a pistol to kill him—if the former should really see things through this disordered medium, and should kill his imagined adversary, with a view merely to defend himself from imminent danger, he would be justified. This form of insanity was usually indicated by brooding morbidly over one particular idea, which could not be removed; and this hallucination would exculpate a person, where the supposed state of facts existing only in his mind, were such as would justify him if they really existed in the nature of things—as in the case last stated, or in the case of a man who believes himself to act under the immediate direction of the Deity, and who acts only in accordance with such imaginary commands. To apply this principle to the case at the bar; if the prisoner labored under a delusive belief, merely that the Warden was going to punish him by a short solitary confinement, or a shower-bath not dangerously severe; then he would be fully responsible for his act. The rule was, that if the insane delusion was such as to justify the act if the imagined state of facts really existed, then the delusive belief was a justification,—or if the afflicted person were seized with a violent paroxysm of insanity, by which reason and memory were overborne, or if the act resulted from a real uncontrollable impulse, in which the mind had no share—then the act could not be deemed guilty, nor the act of a responsible person. When such a delusion was real, it might operate to excuse a crime, although there might be, in the general demeanor and action of the subject, nothing peculiar.

The questions for them to decide were these. 1st. Did an insane delusion exist in the prisoner's mind, and had it been proved? If not proved, then they would find the prisoner guilty.

2d. If the existence of a delusion had been established, did the accused act under the insane belief, that the Warden was not going to shut him up merely, but about to exercise over him such an influence, either through his food, or otherwise, as would inevitably destroy his life?

3d. Were the facts taken in connection with the mental delusion, indicative of such a diseased state of mind in the accused, as to warrant the conclusion that he committed the act under the influence of such a paroxysm of insanity, as for a time superseded his mental functions altogether, and rendered his actions uncontrollable by his will?"

The Jury stood, eight for acquittal on the ground of insanity, and four for conviction.

P. S. In the month of May, 1844, Rogers came to a violent death, by leaping from the room of the building in which he was confined, at the State Lunatic Hospital, at Worcester, Mass. The following particulars, relating to his death, were furnished by Dr. Woodward to Rogers' counsel, Messrs. Bigelow and Bemis, of Boston, and were published in the January number of the American Journal of Insanity:—

"When Rogers came to the Hospital, he was not quite well, had a frequent pulse, and suffered from restlessness and want of sleep. On the 5th, 6th and 8th of February, his pulse was over one hundred per minute; he was pale, and looked anxious. On the 30th of March, and a few days after, he had another turn of sleeplessness. He complained of headache, vertigo, and loss of appetite. He looked ill, and was irritable. This turn passed off, and he appeared as well as before; worked steadily

every day, attended evening prayers, and religious service on the Sabbath, and was calm and attentive to both. About the 15th of May, he was again excited, had headache, frequent pulse, furred tongue, and bad taste in his mouth, which he attributed to bad food. He told an associate that the food offered him was a corpse; he could smell it. He ate little, and did not work much the week of his death; said that he saw evil spirits in his room, and smelt corpses under his bed. His suspicion that he was to be poisoned or injured in some way, became quite strong, and was increased by these delusions, which seemed to get firm hold of his mind. He did not sleep from fear, believing that constant vigilance was his only security. During this time he looked ill, appeared anxious and distressed. He desired to go to prayers the night he made the fatal plunge, and was not particularly uneasy until the services were nearly closed. He asked an officer near him to go out with him; that is, to his room. He told him the service was nearly ended. He then applied to his attendant, who also told him the same. He said to a patient near him, in a whisper, that the room was full of dead bodies. He appeared greatly agitated, and apprehensive. Suddenly, he sprang from the window of the room, a distance of twelve or fifteen feet; and from the injury received from the fall, died thirty-six hours after, not being conscious of anything after the leap.

"While at work in the shop, some days before his death, he appeared uneasy and suspicious, and looked wild and excited. He stepped into an adjoining shop, looked about anxiously, and returned to his work without speaking. During this week he appeared much as he did the week previous to the homicide. I have no idea that Rogers intended to commit suicide. His only object was to escape from dangers, which then seemed to cluster around him. He probably acted from impulse, and as is usual in such cases, was wholly regardless of the consequences of his movements at the time. After his death, some circumstances came to our knowledge, which led us to suppose that he had thought of attempting to escape: but as far as is known, he made no such attempt."

Dr. Buttolph, the able assistant physician to the New York State Lunatic Asylum, at Utica, adds the following remarks, in the justice of which we fully coincide:—

"Dr. Woodward further states, that there was a marked coincidence in his conduct immediately before the homicide and occasionally for many years previous, and after he came to the hospital; especially the week previous to his death.

"These facts and his general appearance while at the Hospital, confirm the opinion expressed on the trial, that Rogers was *insane* and *irresponsible* when he committed the homicide, and when he made the fatal rush which terminated his life.

"In view of the facts presented at the trial of Rogers, together with the opinions of the medical witnesses, we are not surprised at the verdict of the jury.

"Taken, also, in connection with his subsequent history, as given by Dr. Woodward, and the presumption is very strongly confirmed, that the homicide was committed under the influence of an insane impulse."

The opinion recently advanced by judicial authority, to which we have already alluded, namely, that in order to render acts irresponsible, the accused should be proved to be insane in all respects, and on all points, exhibits a view of the nature of mental derangement at variance with the

best established facts in psychological science, and seems fraught with consequences too serious for contemplation.

The extraordinary case which occurred in the city of New York, some twenty-five years ago, of the distinguished *Count Regnaud de St. Jean D' Angely*, the eminent orator of France and friend of Napoleon, is still well remembered by those who took an interest in the circumstances which marked that peculiar form of monomania. Upon an examination *de lunatico inquirendo*, which was instituted in his case, the late Tho. Eddy, C. D. Colden, and others, were summoned as a committee of the Governors of the New York hospital. It is proper to add, that the disordered state of Count Regnaud terminated only with his life, which event took place on the very day of his arrival at Paris, upon permission to return to his native country. The cause of death was believed to have been intense mental excitement.

The important letter on this case, drawn up by the late Hon. C. D. Colden (who formed a part of the commission), and addressed to Dr. J. W. Francis, we copy from Knapp's life of the late Thomas Eddy. It forms a suitable termination to this long chapter on the disordered manifestations of mind, and its interesting character will, it is believed, justify the space which it here occupies.

"I presided," says Mr. C. (p. 392), "at the execution of the commission, which authorized me, and two other commissioners (who they were, I cannot recollect), to hold an inquest, as to the mental condition of the Count. When the commission was opened, the Count appeared in person. There was nothing in his manner that indicated in the least an aberration of mind, but there was a fierceness and restlessness in his eye which might not have been noticed, had it not been known that he was the subject of the inquiry we were authorized to make. As soon as the nature of the proceedings was explained to him, he, in a very formal and professional manner, objected to the form of the inquiry, and attempted to prove that it was illegal. As soon as he was informed that the commission had issued, he had possessed himself of a number of what the lawyers call books of practice, and seemed to have devoted his attention particularly to Harrison's Chancery Practice, from which he undertook to prove that the proceeding should be done by bill, which he should have had an opportunity of answering. He gave us the history of our chancery practice as derived from England, where it had been taken from the civil law. His address to the commissioners showed that, in the space of a few days, he must have read a great part of the books he had in his possession; and that, however the other faculties of his mind might be affected, he retained his memory in great vigor. He did not confine himself, in what he said, to the ordinary bounds of law argument, but gave expression to his feelings in a speech of very considerable length, which, both as to manner and language, was highly oratorical; and though, from his ignorance of the laws of this country, he had assumed false premises, there was nothing illogical or irrational in his argument; on the contrary, if he were mad, there was certainly method in his madness. Finding that his objections to the form of the proceedings could not prevail, he submitted to the decision of the commissioners with great complacency. His course was, when a witness testified to some act of his, calculated to show an alienation of mind, to comment on the testimony, and give explanations immediately. In some instances, he showed great art and ingenuity. It was proved, that he happened to be

passing the Park at a time when they were cutting the grass. He bargained for the whole crop, which amounted to several cart loads, had it transported to his house, and stowed away in one of his bed-rooms; when the testimony of this witness was concluded, he said, "Gentlemen, I will give you a very satisfactory explanation of this fact; goat's milk had been prescribed for me. Just previously to my passing through the Park, I had purchased two of these animals from a ship, that had then terminated a long voyage. Seeing the grass in the Park, it occurred to me, how agreeable some of it would be to my poor goats. I made the purchase of so many tons, not knowing exactly what a ton was, but supposing it might be something like the bundles in which the same article is sold in France. I had directed my servant to let it be put away in a vacant room in my house, and when I saw it there, I was as much surprised at the quantity as you can be, and still more, to receive an apology from the man of whom I made the purchase, when he came for payment of his bill, for not delivering as much as he had bargained with me for, as he said the produce of the Park was not as many tons as he had calculated it would be. So you see my kindness to my poor goats, and my imperfect acquaintance with your language, are now to be tortured into evidence of my insanity."

It was proved by several witnesses, that he had disclosed to them a plan in which he was engaged, to rescue Bonaparte from his captivity at St. Helena. That he had stated to them, that he had a number of steam boats prepared for the expedition. To this he gave the following explanation: "It is true that some of my friends in Europe," said he, "had conceived such a project, and wrote to me, to ascertain whether I could procure the steamboats in this country. I applied to Mr. Livingston, who recommended me to a person, whom I engaged to construct several models, and these are the steamboats of which I spoke to the witnesses. I endeavored to engage them to join in the expedition, as I intended to do myself, when the plan should be matured. So that you see it is but a slight misunderstanding that has led the witnesses to testify that I had represented to them, that I had steamboats in readiness for such an undertaking." Count Real was one of the witnesses who were examined on this point. Immediately after he had concluded his testimony, St. Jean D'Angely took Count Real to one side, and said to him, as he afterwards testified, "Never mind all this, I have the steamboats all prepared; I have a competent force at Brooklines, awaiting my orders. But you do not believe me to be so mad, or such a fool, as not to be able to keep my course secret."

When Count Real was called to the book as a witness, his name, more than that of the Count St. Jean D'Angely, was in the mind of the person who administered the oath, and instead of saying, as he ought to have done, "the evidence you shall give in this matter, touching the lunacy of Count St. Jean D'Angely, shall be the truth," &c., he said, "the evidence you shall give, touching the lunacy of Count Real," &c. St. Jean D'Angely burst into a loud laugh, and said to Count Real, "ah, my friend, you see what is coming. It is my turn now, but it will be yours the next. The gentleman could not have made such a mistake, if he had not in his pocket a commission to inquire whether you are in your right senses; and no doubt, these witnesses intend to prove, that every friend of Bonaparte that comes to this country is mad, and to shut them up, as they have done me." I dare say, I could recollect several other

anecdotes of the same character, but I find they cannot be told in writing in a few words. These may be sufficient to show that the case of St. Jean D'Angely was one of those, where certain mental faculties may be exercised, as if the understanding was unimpaired, when the person is, as the jury found the Count to be, a lunatic.

Most respectfully yours,

CADWALLADER D. COLDEN.

RULES FOR THE EXAMINATION OF PERSONS SUPPOSED TO BE OF UNSOUND MIND, AS LAID DOWN BY MR. GUY.

"1. Examine the general appearance of the individual, the shape of the head, the conformation of the body, the expression of the countenance, the temperament, the gait and movements, the speech, &c.

"2. Ascertain the state of the general health, especially of the functions of the organs of digestion, the appetite, the bowels, &c. Does the person sleep well; or is he disturbed by dreams, or unusually restless? Is he susceptible of heat and cold, or the reverse?

"3. Inquire into the history of the person's family. Has he any hereditary predisposition to insanity? Have any members of his family been subject to fits, or have they betrayed any marked eccentricity of behavior?

"4. If the mind appear unsound, how long has it been so?—from birth or from infancy? If the unsoundness has supervened later in life, did it follow any mental shock, or long-continued anxiety of mind, any severe bodily illness, or repeated epileptic fits? Have the habits of life been regular or the reverse? Has he indulged in the use of intoxicating liquors, or exposed himself habitually to causes of excitement?

"5. Does the present state of mind differ materially from that which existed when the party was reputed of sound mind? Have his feelings, affections, and domestic habits, undergone any marked change?

"6. When the inquiry is directed to ascertain the capacity of the mind, inquire as to the person's knowledge of his family, and of the relation in which they stand to him; as to his memory of persons recently seen, and of events which have recently transpired. Does he know his own age? Is he conscious of the lapse of time, and can he name the day of the week, the month, the year, &c.? Does he know the name of the reigning monarch, and of those persons who are most frequently subjects of conversation? Ascertain his knowledge of the simple operations of arithmetic, and of the value of money. Can he repeat those simple forms of words which are in general use, as the Lord's Prayer, &c.? Note his power of attention, and distinguish carefully between mere negative or affirmative answers to leading questions, and such as indicate judgment and reflection. If the inquiry relate not to the capacity of the mind, but to its soundness in other respects, endeavor to discover the existence of delusion by conversation directed to those topics which are most likely to interest and excite the mind. If the unsoundness affects the moral feelings rather than the intellect, make the relations and friends of the individual the subject of conversation. In cases of supposed moral insanity, inquire into the motives which may have led to the commission of the act of which the party is accused.

"7. When undergoing examination in a court of law, the medical wit-

ness should carefully avoid all definitions of insanity, on the plea that mental, like bodily diseases, do not admit of definition, but are subjects for description; and that diagnosis in most cases must depend upon a comparison of several combined symptoms. The medical man should also insist on having sufficient opportunity of forming his opinion. He should rarely content himself with a single visit, and in cases of difficulty should require the party to be placed for some time under his inspection.

"In other respects, the same observations apply to the examination of persons supposed to be of unsound mind, as to other investigations which the medical man may be required to make."

PART SECOND.

Critical Analysis.

ART. VIII.—*An Essay on Curvatures and Diseases of the Spine, including all the forms of Spinal Distortion: to which the Fothergillian gold medal was awarded by the Medical Society of London.* By R. W. BAMPFIELD, Esq., one of the Surgeons to the Royal Metropolitan Infirmary for Diseases of Children; Fellow of the Medical Society of London; Author of an Essay on Hemeralopia, or Night Blindness; of Practical Treatises on Tropical and Scorbutic Dysentery, &c. Edited by J. K. MITCHELL, M.D., Professor of the Practice of Medicine in Jefferson Medical College of Philadelphia, &c. &c. Philadelphia: Ed. Barrington and Geo. D. Haswell. 1845. 8vo., pp. 223.

WHEN Mr. Bampfield first put forth his work on the Spine, twenty years since, it was deemed authority on the subject; and now, when reprinted in America, and edited by Professor Mitchell, of Philadelphia, there are only appended twenty notes, contained in less than one hundred lines, being equal to two of the two hundred and twenty-three pages of the text,—we conclude that Mr. Bampfield is, in Professor Mitchell's opinion, authority still.

The Fothergillian medal being awarded to Mr. Bampfield for this essay, was a circumstance which brought the book before the profession in a favorable manner; it *was* so received, and has excited from its birth to this time, more influence than any similar work.

We may presume that Professor Mitchell, from the meagerness of his notes, is either unmindful of the progression in the treatment of spinal affections, or that, in his opinion, no improvements have been made; to whichsoever cause we attribute the scantiness of his notes, we, in common with the readers of the work, will greatly lament the total absence of all practical precepts, beyond the recommendation of the use of *corsets* and the employment of the professor's "spine-car."

The essay is divided into fourteen chapters and an appendix, containing a full account of all the diseases of the spinal column and its contents.

Since the first publication of this work, more correct information has been *distributed* to the profession at large, so that there exists no probability of confounding the lateral and gradual posterior curvature, which are supposed and generally acknowledged to arise from muscular debility; from the *angular* curvatures, which arise from caries of the vertebræ. The

Nosology, as given by the author, is divided into curvatures arising, 1st, from caries of vertebræ, terminating in angular curvature; and, 2d, into gradual deviations, of which there are three varieties given—

a. *Excurvation.*

b. *Incurvation.*

c. *Lateral Curvature.*

This is the nosology of curvatures; the remaining diseases of the spine are treated of under the following heads:

"*Fractures, Concussions, and Dislocations of the Vertebræ.*"

"*Spina Bifida, and some other congenital defects of the Spinal Conformation.*"

"*Inflammation of the Medulla Spinalis and its Membranes.*"

"*Of some other affections of the Spine; and of some diseases which are said to originate in its derangement.*"

The following extract shows the author's views of the various curvatures:—

"The distortions and projections of the spine may be still divided into two species, one of which will be denominated curvature of the spine, and the other, the angular projection. Of the former there are three varieties; the first of which for the sake of brevity it is proposed to term an excurvation of the spine, or curvature outwards;* the second, an incurvation of the spine, or curvature inwards; the third, lateral curvature, which has with propriety been generally employed to denote the curvature on either or both sides. The angular projection has not any varieties.

"Curvatures of the spine may take place in any portion of the spinal column; they, however, most commonly occur in the dorsal vertebræ. A curvature of the spine forms the segment of a circle, the arc of which is more or less regular and perfect. The most perfect curves are formed by the dorsal vertebræ, which frequently include the whole twelve. There is an outer line of curve, commonly termed the convex side of the curvature, and an inner line of curve, as often nfimed the concave side. The curve may be divided into two extreme points, and a centre or middle, which is its angle. This centre of the curve becomes the centre of pressure from superincumbent weight, as will be proved in the sequel, and is an expression to be remembered. The angular projection generally takes place in the lower dorsal or lumbar vertebræ, and commonly involves some of the dorsal. To understand the form of this projection, it is necessary to define that the term spinal line, which will be so often employed, means the line the vertebræ or spinal column ought to make and does make in its natural and undeformed state, and differs somewhat from the meaning attached to the term, axis of the vertebræ. The angular projection of the spine forms the projecting line of an acute angle with the spinal line, the quantity of which varies in the degree the spinous processes project beyond their natural situation. The spinal line, the projecting line, and the line formed by the lower surface of the most projecting vertebræ, form a triangle, of which we will consider the last with its spinous process to be the base.

"Curvatures of the spine have been denominated either temporary or permanent. Temporary curvature implies a distortion of the spine removable at will, sometimes with and sometimes without the aid of mechanical assistance. Of this kind are inflexions forward with excurvations from paralysis or debility of the muscles of the back; lumbar incurvations, when in the erect attitude, in cases where there is permanent contraction of the flexor muscles of the thigh; and almost all curvatures are temporary in their incipient stage. In all such

---

* Excurvation is not a genuine English word: it is trusted, however, its use will be excused; for, as incurvation very aptly expresses one condition of the curved vertebræ, it was thought excurvation might be as fitly employed in contradistinction.

instances the structural parts of the spinal column still preserve their relative proportions, and not any of the bones and intervertebral substances have been reduced to a cuneiform shape, or entirely destroyed. Permanent curvature is generally intended to imply a distortion not removable at will or at once, even with the help of mechanical power, in which the structural parts of the spine have lost their natural proportions, and some of the bodies of the vertebræ or intervertebral substances have become cuneiform or destroyed; but which admits of the possibility of their being ultimately restored. Permanent curvature, however, must be perpetual, while many of the bodies of the vertebræ are destroyed or taken away, either by caries or absorption, or where progressive absorption of the cartilages occur (as in old age), after nature has withdrawn the power of regeneration.

"Curvatures and projections of the spine are most commonly formed during the growth of the body, and from the age of one to twenty-one years; they however occur, with less frequency, from this age to that of forty years, beyond which period of life Mr. Pott says he has never seen it; but my worthy friend, Mr. C. Hutchison, did me the favor to show me a case of excurvation of the spine in Elizabeth Charles, at the Cock and Bottle, in the Strand, who was forty-six years old. The excurvation of old age is obviously formed at a more advanced period.

"Since the days of the celebrated author, whose name is by a sort of prescriptive right associated with this disease, so that our French neighbors denominate it 'Maladie de Pott,' it has been, until very recently, fashionable to admit, that wherever there is curvature of the spine, there must exist caries as a cause, arising chiefly from scrofulous action; but the first part of this position is generally incorrect and untenable, as the cases of curvature without caries are far more numerous than those in which caries occurs; and if the nosological division of those diseases already proposed, had not appeared more perspicuous and convenient, I should have adopted the nosological distinction of curvatures into those with, and those without, caries."

To the young and inexperienced practitioner, it becomes a matter of vast moment to remember and understand the momentous difference between the curvatures caused by *caries* and those produced by accidental causes; such as bad positions, and any cause terminating in muscular debility or contraction. Strange as it may appear to the initiated, such errors are not rare; the angular cases are subjected to stretching; and the lateral to inaction, by the ignorant and pretending.

A more fatal error than this, cannot be committed in the whole range of surgical practice; the two cases require directly opposite treatment; and wo be to the surgeon who mistakes the cases and treats them indiscriminately.

The second chapter is divided into seven sections, and is devoted to *excurvation of the spine*, its history, symptoms, and the effects on the bony and external soft parts, as well as on the spinal marrow and thoracic and abdominal viscera.

"Sect. I.—*History and Symptoms of this Disease.*—This variety of spinal distortion is more frequently formed than any other;* and on this account, may be first considered. It is induced during childhood, puberty, and more rarely in adult age. In old age the curvature of senility sometimes occurs, and might be generally considered a natural deformity rather than a disease, and will be alluded to for the sake of illustration. The occurrence of this variety of disease at various periods of life, and from different causes, occasions the symptoms to

* [We are unable to admit the greater frequency of this form of spinal distortion in girls. It is so in boys, who are seldom affected with any other form; but girls are much more frequently attacked by lateral curvature.—Ed.

differ in some respects, but not so materially as to prevent me from attempting a general history of the progress and effects of the complaint.

"The commencement of excurvation of the spine is sometimes marked by pain of the vertebræ about to be involved in the curvature, which is more particularly felt on using exercise, in the erect posture, or may be, at all times, excited by pressure on the spinous processes; in the latter case, an adult would shrink from the pain and mention it; a child would cry. Should inflammation of any of the constituent parts of the vertebral joints exist, the pain would be of a more permanent nature or of more frequent recurrence, and the patient will be considerably relieved by assuming the horizontal posture, and in a less degree by bending the spine backwards. The majority of cases are not preceded by any pain of the vertebræ, that attracts so much attention, or occasions so much suffering as to lead to voluntary complaint. In some cases, chiefly in those accompanied with inflammation, if a spunge wrung out of hot water be passed along the spine, it will create increase of heat and pain in the part disposed to curvature, but this is not a result obtainable in the generality of cases. An adult generally states the pain to be of an obtuse kind and feeling like a weight, but it can only be inferred that a young child feels pain by its crying, when made to sit up or walk about. At this period, if the spine be accurately examined, particularly if it be bent a little forwards, some of the spinous processes of the dorsal vertebræ, which are the seat of pain, may be observed to project more irregularly than the rest, so that they stretch the skin over them, and make it appear white and shining, resembling the phenomenon of the stretched skin over the knuckles of a clenched fist; yet this appearance of the curvature at its commencement is only of a temporary nature, as by laying the patient in a proper horizontal posture, and using mechanical aid, the vertebral column can be restored to its spinal line. About the time the above evidence of incipient curvature is manifest, many adults will complain of a sense of weakness in their back, of a lassitude that disinclines them from exertion, and of fatigue being soon induced by exercise, all of which dispose them to seek repose and avoid motion. A child, if he have not previously gained the use of his legs, has the ability of using the lower limbs deferred long beyond the usual period children should walk, and if he had acquired the power of walking, he will gradually lose that remarkable spirit of activity and endless motion peculiar to children, and become listless and languid, seeking its mother's lap for a resting-place. Should these symptoms of weakness and indisposition to exercise lead to the frequent adoption of the recumbent posture, the curvature will increase very slowly, or its progress may be arrested for a time. Should, however, the patient not lie down more than usual, but be seated in a chair during the day, where the vertebræ will have to bear the superincumbent weight of the head, &c., especially if he walk about as much as he is able, the curvature will advance with considerable rapidity, and after a little increase, if the patient be placed on his feet, he cannot maintain the vertebral column in the erect attitude, but inclines the upper part forwards; and he moves with a slow, hesitating, tottering gait, and is soon tired, or he cannot direct his steps to the proper point, and he stumbles, trips or crosses his legs, and falls down crying.* In this state a child dreads to be put down, and when on his feet will, with tears, cling to his mother or nurse for support, and if deprived of it, he will totter, his knees will bend, and he will soon fall, unless caught. The lower extremities gradually diminish in size, as the curvature advances, and frequently lose part of their natural sensibility and temperature; the muscles exchange their plump and firm feel, for a softer one, and their power daily decreases. The patient will often sit with his legs crossed, and in bed will sometimes experience pain in his knees, and convulsive action of the muscles of the thighs, which are more particularly felt and described by the adult, whose loss of muscular power is more generally accompanied with a sense of coldness and diminished sensibility and firmness of the extremities. If a palsy

* [An awkward gait, a tendency to totter or fall, or to drag one leg, are among the earliest symptoms of spinal disease; and are present often, long before any distortion is discoverable. Previously to these symptoms, there often exists a sense of weariness and a disinclination to physical exertion.—Ed.]

of the lower limbs be now induced, there is of course an end to locomotion; the muscles and cellular texture of the extremities waste and wither; the limbs become flaccid and cold, and, if lifted up, will fall down like a mass of inanimate matter; the joints are more rigid than in ordinary paralysis, and the skin frequently retains some power of sensation. This calamitous effect or symptom, however, only supervenes occasionally, for the majority of adults and minors retain sufficient muscular power of the extremities to enable them to move about in their room, with the artificial aid they can derive from the chairs, tables, and other supports that are available in their route. Should they attempt it without such extrinsic aid, or the use of crutches, or the support of friends, they can only walk a short time with such a degree of bent posture, as the curvature necessarily occasions, and suddenly lean forwards and support themselves, by placing their hands above their knees; and the vertebral column then becomes curved to a great extent.—Most patients, if not prevented by paralysis, or restrained by medical advice, retain the disposition, which they indulge in, to sit up and walk about a little through the whole progress of the disease; but where *scrofulous caries* is the cause of the curvature, the inclination to move about very frequently forsakes them, and they sit in a chair, listless, languid, often asthmatic, or affected with dyspnœa, and endeavor to take off the superincumbent weight of the head, by placing the elbows on the table before them, or on the arms of their chair, and lodging their lower jaw on the thumbs (as on a crutch) extended across it, with the fingers directed up to the side of the face or ears. If the patient be confined to the horizontal posture, more especially the facial, when the excurvation is in the incipient stage, no permanent or perpetual curvature will ensue, provided its use be persevered in, until the dorsal muscles have recovered their energy, or the disposition to inflammation and scrofulous action of the vertebræ be removed. Should the patient incautiously continue to sit up and walk about, a curvature of the spine ensues and gradually increases: the first appearance of projection has been described, and in a short time after, one, two, or three spinous processes of the dorsal vertebræ may be observed to project beyond the spinal line a quarter or half of an inch; after this the spinous processes of the vertebræ above and below those previously projecting successively protrude, until many or the whole of the dorsal vertebræ form a curve, and are projecting backwards beyond the spinal line from an inch to even two inches, the chord line of which does not admeasure much more than one half of the length the vertebræ of their natural dimensions and breadth would occupy. The lower cervical vertebræ naturally incline forward from their junction with the first dorsal; but in the state of the dorsal curvature just described, they become placed almost horizontally in the erect attitude of the body. As the curvature increases, the spinous processes of the dorsal vertebræ gradually separate from each other; but the greatest degree of separation takes place about the middle of the curve, where the space of half an inch is left between them, and the forefinger can be easily inserted. When they are separated at this distance, it may be always inferred with much probability, if not certainty, that the horizontal surface of the bodies of the vertebræ, of which these spinous processes are corresponding parts, are either greatly or wholly absorbed, as well as the intervertebral substances between them. Excurvation of the spine is generally accompanied with distortion of the costæ and sternum. During the formation of an excurvation, the general health becomes impaired, and particular organs and functions suffer derangement, the symptomatology of which cannot be very briefly disposed of; for although the description drawn may enable the surgeon to distinguish the disease in its different stages, yet it is necessary to a due comprehension of it, to enumerate and examine the evils it brings in its train, and to take a review of many of the morbid effects it produces on the various structures, systems, organs, and functions of the body."

We have extracted this whole section for the double purpose of giving the general symptoms of spinal curvatures, and of showing how much Professor Mitchell is to blame for not correcting the errors set forth by the author. In this history of the symptoms of *excurvation*, the author

has jumbled up the symptoms of spinal irritation simply, and of lateral curvature, as well as the more formidable angular curvature from caries. Indeed, in this country, simple excurvation is a very rare disease; that is, independent of that form arising from old age, or in rachitic children.

Mr. Bampfield, being a sort of pioneer, is more excusable than his editor, with twenty years' later knowledge.

We appeal to our readers to uphold us in the position that simple excurvation is very rare. When the train of grave symptoms, detailed above, are present, there can be no question but that organic changes are going on; and if the curve, from debility, does not progress to angular projection, it is because the caries of the bodies of the vertebræ had, from medical treatment or the recuperative powers of the constitution, been arrested.

In general softening of the bones there may be excurvation, though in a vast majority of cases in this disease, as well as in rachitis, incurvation rather than excurvation will ensue.

It appears more strange that the author and editor should both include opposite conditions of the spine under the same description, when, in another part of the book, they are described separately. If Mr. Bampfield should revise his work at this day, it would indeed be passing strange if he should continue to insist upon the presence of caries in most cases of excurvation without angular projection.

Section II.—*Affections of the Muscles.*—In this section the author describes the general atony of the muscles of the back, the lassitude and great desire to lean on any near object for support. On dissection, the muscles attached to spinous and other processes of the vertebræ are found to be pale and diminished in size: and as the processes are separated from each other in excurvation, then the muscles attached to them are elongated.

The muscles on the anterior aspect of the trunk, from the inclination forwards, become shortened, and thus tend to increase the spinal excurvation and impede respiration. All the muscles of respiration, including the diaphragm and the intercostals, from debility and unnatural contraction, imperfectly perform their functions, and the body is consequently imperfectly nourished for want of properly oxygenated blood.

The following extract, to our mind, conclusively shows, that the author does not discriminate sufficiently excurvation from muscular debility from excurvation accompanying caries of the vertebræ.

"The muscles of the upper extremities are sometimes affected, in excurvation, with numbness, subsultus tendinum, chorea, and even convulsions, as are the muscles of the lower extremities. The muscles of the lower extremities sometimes become affected with great weakness or total paralysis, but the degree of weakness or the induction of paralysis does not appear to depend upon any particular degree of curvature, or to bear any specific relative proportion to it, *for many cases of extensive curvature are not attended with paralysis, whilst some of slight curvature are accompanied by it.*

"The power of the sphincters of the bladder and rectum is, in some few cases, much diminished or lost, so that there is an involuntary discharge of urine and fæces."

The lines in italics we have made such, to emphasize the fact that large curvatures are seldom or never followed by grave nervous disorders; but that *small* angular curvatures, doubtless arising from caries, are,

in a majority of cases, accompanied or followed by temporary paralysis. Far be it from us to suppose Mr. Bampfield ignorant of these distinctions; we only marvel that, in the present state of knowledge, they were suffered to remain unexplained in this edition.

SECTION III.—*Affections of the Bones of the Spine and Chest.*—This is a very important and truly philosophical section; and were it not for its length, we would most certainly copy it entire; as this notice would be too extended if we followed our inclination, a few extracts must suffice.

"The vertebral column is so constructed, that when it is placed upright, the upper or cervical part of it inclines forward, whilst the middle or dorsal, and the base or lumbar portions are nearly perpendicular: let the head be placed on the apex of this column, and it is retained in this position by muscular power, counteracting superincumbent weight. Form an elastic column of 24 joints, bearing an accurate resemblance to the human spine, without any mechanical power to counteract the effects of superincumbent weight; let the base be a fixed point, and the apex and other parts moveable ones; affix a weight equal to that of the human head to its apex, and the column must bend forward, because it must take the direction the natural inclination of the upper part of the column gives it, and, by its form, that inclination is forward; the weight superadded could not elevate the inclined or depressed portion, or bring it upright or reflect it backwards.* When the superincumbent weight has thus inclined the upper part of the column forward, suspend weights at certain distances and angles on each side of the upper parts of the column equal to the weight of the ribs, thoracic contents, muscles, and integuments, and the column will be bent into a greater degree of curvature, the most convex part of which will be near the middle of the column, where also the centre of the greatest pressure will be; and hence it is, that, in excurvation and lateral curvature, the central vertebræ of the whole column form the most projecting parts of the curve or points of greatest convexity. For instance, there are 24 vertebræ, 7 cervical, 12 dorsal, 5 lumbar; consequently the 5th and 6th dorsal are the middle or central ones of the whole, and these with the 4th dorsal generally constitute the most protruding points of the curvature. Let us endeavor to explain how it occurs that the 4th dorsal vertebra becomes the point of projection oftener than the 7th, and the attempt will also serve to show how the spinal column assumes the curvature outwards. Take an elastic conical pyramid, like the spine, whose base is a fixed point, and whose dimensions gradually diminish in size from the base to the apex; apply a weight or bending force to its apex, so as to bend it down, and an arc will be formed whose greatest convexity will project beyond the perpendicular line it had when straight; it will also be perceived, that it will bend more above its centre than it does below it, and hence it is, that in excurvations of the spine, the convexity projects beyond the spinal line posteriorly, and although the 4th and 7th dorsal vertebræ are at a relative or equal distance from the middle of the spine, yet the former is oftener the centre of convexity than the latter, and the spinous processes most distantly separated are generally those of the 4th and 5th dorsal, and leave the greatest space between them, whilst anteriorly the bodies of the 4th and 5th dorsal vertebræ are those the most absorbed in excurvation. It may be objected, that all analogical illustrations derived from mechanics must be imperfect, but take away the moving powers from the bones, for instance of the back, or let them be paralysed so as to be rendered unequal to their movements, and it may be asked, what does the spine present but a complicated piece of motionless mechanism? Incurvation is a very infrequent effect of superincumbent weight, because the spine does not naturally incline backwards, and be-

* If this artificial column were placed exactly perpendicular, the weight of the head would not occasion it to deviate from that line: incline it from the perpendicular to any other direction, and it would bend the column in that direction to some given extent.

cause the bony bridge and spinous processes firmly resist a backward inflection, whilst the elasticity and compressibility of the intervertebral cartilages favor the inflection forwards."

The author's description of progressive absorption and caries is beautifully given in the following extract:—

"The destruction of the vertebræ of the spine is accomplished by the two different modes of action, which after death present dissimilar appearances. One mode is by the induction of caries or ulcerative absorption; the other is by progressive absorption. The bodies of the vertebræ are almost exclusively subject to the effects of these two modes of destructive action, and of course the bony bridge and processes seldom suffer from either, but they nevertheless undergo changes which are commonly of a different character. The intervertebral cartilages are also destroyed by ulceration and progressive absorption. Caries of the bodies of the vertebræ is, in general, the result of that slow scrofulous inflammation, which peculiarly invades the cancellous structure of these, and the articulating extremities of other bones, in which case the remaining portions of the bodies of the diseased vertebræ are often soft, and may be easily divided with a common knife. At first, this inflammation produces an appearance of increased vascularity in the bone; ulceration soon follows; the earthy matter becomes absorbed, and the bone is thereby rendered soft and spongy; at length the secretions in the cancelli become also absorbed, and a deposition of a caseous, or thick, curdy matter, often yellow, fills its place. Caries also ensues from chronic common inflammation; in which case, the portions of the vertebræ contiguous to the carious part are unusually vascular, and of a dark color; but they preserve their natural texture and hardness. I am informed by an eminent surgeon of this metropolis,* that he has dissected two curved spines, in which the bone remained hard, but was so brittle, that pieces might be struck off in splinters with the greatest facility. Caries may take its origin in any portion of the circumference of the bodies of the vertebræ, or on their horizontal surfaces; in the latter case, the ulceration sometimes spreads from the intervertebral cartilages to the bony surfaces in contact with them. The bodies of the vertebræ are destroyed in the most irregular manner, and the drawings of different specimens to be found in the works of Mr. Ford,† and more modern authors, the preparations in the different museums, and dissections, amply display these irregularities. Sometimes excavations are formed through the body, sometimes the caries destroys the perpendicular, sometimes the horizontal surfaces on the anterior portions or the sides, sometimes the destruction is more regular and leaves a surface tolerably smooth, more commonly the carious vertebræ are jagged, fissured, irregular, and full of cavities, filled with purulent and curd-like matter, &c. Caries of the vertebræ is sometimes called dry, that is, the bone is destroyed without producing pus."

The formation of psoas abscess is graphically delineated as follows:—

"Caries of the vertebræ very often gives rise to inflammation of the soft parts around and contiguous to them, which terminates in suppuration. Hence, abscesses are formed, which first collect opposite the carious vertebræ;—if these should be the dorsal, the abscess will collect in the posterior mediastinum, and the pus may separate the pleura from its natural adhesions, and by pressing on the lungs occasion inflammation of the pleura, and distressing dyspnœa; or it may burst into the thorax and occasion death. If the lower dorsal or lumbar vertebræ be the seat of caries, the collection of pus may insinuate itself between the crura of the diaphragm, may separate the peritoneum from the diaphragm

---

* Mr. Brodie. † On the Hip-joint.

or its other natural adhesions, or it may penetrate through the peritoneum among the intestines, and excite peritonitis that may terminate in death. The collections of pus, even when as high as the upper part of the posterior mediastinum, sometimes gradually insinuate themselves along the spine, and present anteriorly in the course of the psoæ muscles or of the spermatic cord, or these abscesses may take an outward direction, and break posteriorly on one side or the other of the vertebræ, so as to become what are strictly denominated lumbar abscesses.

"These abscesses now and then take a course to the verge of the anus. They also have been found to penetrate through the theca vertebralis and insinuate themselves in the course of the medulla spinalis. Abscess, formed among the psoæ muscles, sometimes produces caries of the spine; hence, these two affections reciprocally produce each other:—Yet caries of the vertebræ does not necessarily produce psoas abscess, nor do lumbar abscesses necessarily produce carious vertebræ. It has been already observed, that caries of the spine is occasionally communicated from a diseased and ulcerated intervertebral cartilage; caries of the vertebræ, however, much oftener propagates the ulcerative absorption to the intervertebral substance. When the ulcerative absorption of the bony parts of the spine is occasioned by the pressure of tumors, the bone is frequently absorbed, whilst the cartilage remains entire, or is but very little affected, so that it appears to imbed itself in the substance of the tumor. When two or more vertebræ are entirely removed by ulcerative absorption from any other cause but the pressure of tumors, the intervertebral substance has been destroyed to the same extent in the cases that have come under my experience, and have been subsequently submitted to dissection."

This and much more of equally interesting matter, is contained in this section: it cannot well be abridged, nor easily improved.

Section X.—*Affections of the Spinal Canal, Medulla Spinalis, and Nerves.*—The canal of course follows the curve of the vertebral column; but a remarkable fact constantly ensues, that is, the smoothness of the canal, and entire want of roughness infringing upon the medulla spinalis.

This is a wise and merciful provision of the Creator; for when we remember the tremendous consequences ensuing upon jagged bone coming in contact with cerebral or nervous matter, we cannot fail to revere the author of the above provision.

When excurvation occurs in childhood, the diseased vertebræ are arrested in their developement, and the canal at this point is smaller than elsewhere.

When from destruction or separation of the vertebræ, the medulla is not protected by bone, the integuments become cartilaginous, in order to protect the vital parts within.

When the canal is diminished, of course the medulla is also smaller at such point; and the nerves passing from this point to their destination, partake of the diminished power. This will account for the early pain at the pit of the stomach, and partial paralysis, before there is much perceptible destruction or absorption of the bony canal.

We leave the following extract to be explained by the learned physiologists:—

"The interruption or destruction of the continuity of the spinal marrow in excurvation or other curvatures is not a frequent occurrence; three cases have, however, been recently related, one by Dr. Rullier, in Magendie's Journal, in which the spinal marrow was converted into a fluid along the space of the two inferior thirds of the cervical portion and the upper third of the dorsal, and two

by Dr. Olivier.* In a child of 8 or 9 years, a complete deficiency of spinal marrow existed from the 9th dorsal to the 1st lumbar, that is, about four inches. In the other, a girl of 13 years, at the lower part of the dorsal region, the nervous pulp, reduced to a putrid state, was converted into a pultaceous matter, and deficient for four or five lines. In the latter cases, the vertebræ were affected with scrofulous caries. It is a most remarkable circumstance, that, in all those cases, there was not paralysis of the lower extremities."

SECTION V—*Is devoted to Effects on the Spinal Ligaments.*—These, in slight cases, remain free from inflammation; but in some they are inflamed and absorbed, and when an anchylosis occurs, they are converted into bone.

SECTION VI—*Treats of the Affections of the Arterial and Absorbent Systems.*—The derangements arise principally from the presence of large aneurismal sacs, and displacements of the heart, aorta, and thoracic duct. In consequence of such displacements, the heart will palpitate violently, and the viscera be imperfectly nourished.

SECTION VII—*Is devoted to some of the Affections of the Thoracic and Abdominal Viscera, and the Urinary Organs.*—We have only to remember the misplaced condition of all the viscera, and the impinged condition of the nerves supplying them, to fully appreciate the following catalogue of evils consequent upon spinal excurvation.

"When the perversion of the natural situations of the viscera, of the great blood-vessels, of the ganglionic system of nerves, and of the thoracic duct, is contemplated; when the structural alterations and deviations (of position) of the lungs, heart, liver, and some other of the viscera, aorta descendens, venæ cavæ, thoracic duct and some of the nerves are considered; when the derangements of the spinal cord and the spinal nerves, of the abdominal and intercostal muscles and diaphragm, and the curvature and shortened spine are weighed; when we view the spinal marrow, thus deranged, as the principal seat of sensation and motion, and know the spinal nerves are distributed to all the viscera contained within the thorax, abdomen, and pelvis, and supply them with the nervous energy necessary to their important functions, as well as to the muscles of the upper and lower extremities, back, chest, diaphragm, and all the other constituent parts, besides possessing a connexion with the nerves of the brain through the ramifications of the great sympathetic; when we reflect on the aggregate of disorder and displacement of the frame-work and the frame, we cannot be astonished at hearing an appalling catalogue of maladies which are attendants or consequences of spinal deformity and disease. A catalogue, whose history and treatment to pursue and dwell upon in this dissertation would make it almost endless; for I have known the head affected with severe pain, occasionally predisposing to phrenitis and death; the eyes affected with convulsions, and imperfect vision; the ears with deficient hearing; and I have witnessed, as companions to curvatures of the spine, dyspnœa, asthma, congestion, and inflammation of the lungs; imperfect oxygenation of the blood; palpitation of the heart; aneurisms of the aorta; a corded tightness across the epigastre: gastrodynia; indigestion; loss of appetite or a vitiated state of it; torpor of the liver, or deficient secretion of bile; constipation; discolored fæces; morbid secretions of the kidneys; involuntary discharge of urine and fæces; a variety of nervous feelings; epileptic fits; numbness and coldness of the extremities; tic-douloureux-like pains about the joints of the lower extremities and muscles, and of the posterior part of the ileum; paralysis of the upper and lower extremities, and an almost universal torpor. When all these circumstances and symptoms are maturely deliberated

* See Obs. v., p. 143, and Obs. xlix., p. 339. De la Moelle Epinière et de ses Maladies, par C. P. Olivier, D'Angers.—Paris, 1824.

upon, we cannot be surprised that the functions of the various organs, muscles and vessels, are disordered; we should rather be lost in admiration at the resources of nature, which enable some patients to endure many of them without much expression of suffering, during the gradual progress of the morbid changes, and which resources finally accommodate the viscera to the new state of structure, and enable them to carry on their offices so well, that some such deformed patients eventually enjoy a good share of health and animal spirits, and mental energy and bodily strength, during life, and are only unlike their fellow creatures in their deviations from the beautiful symmetry of structure, the fair and admirable form, and matchless proportions, designed by the benevolent and wise *Creator of all.*"

Thus far, if our author had clearly, in course, distinguished between caries of the vertebræ and curvatures arising from other causes, he might have defied better description. By the learner, we feel that we shall be borne out in our strictures upon this point.

CHAPTER III.—The causes of curvatures are here entered upon; but the same mixing up of varieties is continued, and the same sentence gives the same causes as producing curvatures from muscular debility, from caries, and from deposits of bone between the cartilages.

We will endeavor to separate the causes, as given by Mr. Bampfield, according to the varieties of curvatures.

"Contusions and shocks from falls, sprains of the vertebral joints, scrofula, rachitis, syphilis, rheumatism, careless and habitual mal-positions of the body, particularly during its growth; malformation or irregular and unnatural growth of bone; cerebral affections; muscular debility, and old age, may be enumerated among the remote causes; and, of these, contusions, and shocks from falling, have obtained a sort of popular belief of their being common causes, for most parents trace the origin of their children's distortions to nurses, or some other persons, having allowed them to fall.

"Partial or total paralysis of the muscles of the back will produce temporary distortion, that can be at all times removed by mechanical means, as long as the vertebræ preserve their natural and regular dimensions."

This is a sufficient catalogue; and enough causes are named to produce all the varieties of curvatures.

Mr. Bampfield enters into the merits of Mr. Harrison's doctrine of dislocation of the vertebræ, as the usual cause of curvatures. It is unnecessary here to state his arguments, which are perfectly satisfactory against any such occurrence. In our day and generation we have enough of other pretended dislocations, and the reflections upon such impostures is more bitter than *sweet*.

"Cerebral affections have been ascertained to be the origin of curvatures, more particularly of the temporary variety, and, by producing long continued muscular debility, to have led to permanent spinal distortion."

Here we have the idea started, which has given Guerin, of Paris, the hint for his theory of most or all lateral curvatures, depending on muscular contraction.

Proximate Causes.

"The morbid alteration most frequently met with, is a reduction of the bodies of the vertebræ and intervertebral substances from a state of equal thickness to a cuneiform shape; the ordinary destruction produces either a partial or total removal of one or many of these bodies and intervertebral substances. This alter-

nation or destruction of structure is effected by 'ulcerative absorption,' or caries, of the vertebræ; by 'progressive absorption' of the vertebræ, without caries or formation of pus; by an irregular growth of bone, whether combined with progressive absorption or not; or by either an ulcerative or progressive absorption of the intervertebral cartilages. To effect permanent distortion, this alteration of structure must produce such disproportions in the mechanism of the spine, as not only occasion a deflection from the upright attitude, but are incompatible with its retaining it, and render it impossible to place or restore the spinal column, at once or at will, to its perpendicular state, or to its spinal line or natural axis, either by the powers of volition, or by any mechanical power."

"When progressive absorption of the bodies of the vertebræ and intervertebral cartilages takes place, without caries or the formation of pus, however it may be induced, the same mechanical results and structural deviations must follow, as if they had been destroyed by caries or ulcerative absorption; which is exemplified in Miss Jane Archer's case, related in this Essay. The curvatures arising from progressive absorption generally occur in children and young persons, during the growth of their bones, when the osseous structure is not very solid; the formation of the curvatures is gradual, and their extent must necessarily be proportioned to the quantity of the horizontal surfaces, or the number of the vertebræ or intervertebral cartilages absorbed. This should teach parents to observe the attitudes of their children, and endeavor to check or counteract any bad habit, as to the posture of the body, that tends to throw unequal pressure on any particular part of the spinal column."

"When an increased growth of bone takes place on one side of the spinal column, which is a flexible one, it must necessarily elevate the parts above it on the same side, and make them recline over to the opposite side, which is thinner, and that must now sustain the greater share of the weight; one consequence of which must be, that a greater degree of pressure will be made by all superincumbent weight on the thinner side, to which it is reclined, whilst it will be diminished on the side which the increased growth has elevated; and, indeed, whilst the superincumbent weight will press the surfaces of the joints more closely together on one side, it will tend to open the joints, or separate their surfaces on the other, and put the ligaments on the stretch, and (as it were) create a space for interstitial deposition.

"Now pressure is the strongest power we possess of producing local absorption, and as increased growth of bone is a cause of a permanent nature, the pressure too becomes permanent (except in particular positions of the body), and occasions absorption of that part of the bone, and of the intervertebral cartilage unduly pressed upon. Thus, increased growth on one side, and progressive absorption occasioned by pressure on the opposite side, both conspire to the same end, and both operate in destroying the natural proportions of the vertebræ, and of deflecting the erect spine from its spinal line to the form of a curve; and, in the degree that increased growth takes place on one side, and increased pressure and absorption on the other, the greater or less must be the curvature. Besides, as these causes extend their effects, the number of the vertebræ involved in the curve will be increased, until many are bent into an arc, some of which have had their dimensions increased on one side, and all of them have been diminished on the other,—which is a very important fact to be borne in mind in the treatment. During this deforming process, we may reasonably believe them muscles and ligaments offer some resistance to its progress, but effects show their resistance is overcome."

"From the facts adduced, and the illustrations offered in this chapter, I think it may be deduced, as proved;—that the erect attitude of the body depends upon the vertebræ and intervertebral cartilages being of equal thickness, and that it cannot be preserved without this just proportion. That the temporary flexions of the spine are performed or permitted by those cartilages yielding to pressure, so that their thickness becomes temporarily altered. And that all permanent curvatures of the spine are caused by, or result from, the bodies of the vertebræ and intervertebral cartilages being reduced to a cuneiform shape or entirely destroyed; in which disproportionate state of parts it would be impossible to place the spine in the perpendicular or erect attitude."

From the above lengthened extracts, it would appear that Mr. Bampfield strongly inclines to the opinion that curvatures commence in the bony structure, and that the muscles accommodate themselves to the distorted vertebral column.

Doubtless, in caries of the vertebræ, this is true; but most lateral curvatures, and round shoulders of feeble youth and old age, are produced by muscular debility.

If the weight of the head and chest, resting on the column, produced "progressive absorption" of the vertebræ, we should naturally suppose the whole column would settle down and increase the natural curves of the spine; but no such circumstances occur; and, moreover, the bones in lateral curvatures are healthy and as hard as usual; they take a wedge-like shape, from the pressure on one side being greater than on the other.

There is, undoubtedly, a great amount of truth in Guerin's doctrine of muscular contraction being a frequently productive cause of spinal curvatures. The same effect would be produced by paralysis of an antagonistic muscle on one side of the spine, the opposite remaining healthy.

Prognosis.—With caries, the prognosis is unfavorable. Where the cause is "progressive absorption," both the curvature may be remedied, and the life saved.

When aneurism is the cause, a fatal result is to be apprehended.

When paralysis of the lower extremities occurs, the cases are doubtful.

"Curvatures, attended with frequent headaches, or constant cephalæa, are dangerous; and, with hectic fever, are fatal."

When the spinal pain ceases, the functions are restored, and the patient gains flesh, the case becomes highly favorable.

Diagnosis.

"The corded tightness or sense of constriction across the epigastre is, perhaps, the only symptom peculiar to curvature of the dorsal vertebræ. Disordered respiration, with diminution of the muscular power of the back or extremities, or irregular actions or convulsions of the muscles of the latter, with a sense of weakness or weariness not easily accounted for from any other disease, should excite suspicion, and lead to an inspection of the back, as ought a constant habit of stooping forwards or leaning to one side.* In the curvatures without inflammation or caries, there is very little accompanying pain, and no pain is, in general, stated to be felt, unless the affected vertebræ are pressed upon. Curvatures with caries are preceded and accompanied with more marks of inflammation, such as pain, slight attacks of fever, and constitutional disturbance.

"In curvatures without caries, the patients generally retain a disposition to sit up and walk about; in those with caries, exercise frequently occasions pain, uneasiness, and speedy exhaustion of muscular power. In curvatures without caries, the general health is not often very much impaired, however great the curvature; at least, there are no symptoms from which much danger is apprehended: this general rule has its exceptions, as I have seen two cases of excurvation without caries, attended with dyspepsia, loss of appetite, torpid liver and bowels, and general emaciation; and one of the two was affected with paraplegia and disordered kidneys. Even in these, however, the countenance was more expressive of languor and debility than of pain.

"In curvature with caries, the general health seems to be impaired from the first accession of the inflammatory stage, whether it be simple or scrofulous inflam-

---

[*Among the earliest symptoms of caries of the spine is an abdominal pain like colic, felt chiefly at night, producing morbid *insomnia*, and a desire for motion or gestation in the arms of a nurse.—Ed.]

mation; there is more pain complained of, which the patient endeavors to relieve by assuming attitudes that take off particular pressure, as by leaning backwards, or to the one side or the other; the patient gradually falls away from the first, and looks pale and languid, even when his appetite is tolerable; scrofulous swelling of glands, or affections of the joints sometimes supervene; great mental irritability ensues; the muscles become soft and flabby; and when the anterior ligaments are ulcerated through, and pus or sanies escapes from the carious vertebræ or ulcerated or gangrenous intervertebral substance, the symptoms of hectic fever with cough supervene, and the patient is generally carried off by it, and a wasting diarrhœa, assisted sometimes by the discharge of pus emanating from the diseased vertebræ. This diagnostic is not very satisfactory, but the history of the general state of health accompanying curvatures has often been the best guide in forming a diagnostic opinion, so much worse is it in curvatures with caries than without. The inflammation, ulceration, or gangrene of the intervertebral substance have appeared to me to be attended with more local pain and tenderness, and more general suffering than caries of the bony structure, and the ulceration of the anterior spinal ligament is sometimes longer deferred in the latter case, but, when induced, abscesses are the result, which generally terminate in hectic fever, emaciation and death.

"There are not any early symptoms which may be pronounced *certain* diagnostics of a predisposition to curvature, or of an incipient curvature; when, however, a patient complains of any pain in the course of the spine, attended with a sense of constriction across the epigrastre, and an occasional feeling of numbness or twitching of the upper or lower extremities, and is relieved by bending backwards, or to one side, or by lying down; suspicion should be roused and the back should be inspected. If any disease should exist, the dorsal muscles are generally wasted; if in any degree the curvature exists, the projecting spinous processes will demonstrate it; if of inflammation, pressure, and the application of the hot sponge will excite pain. In curvatures without inflammation or caries, the hot sponge as often affords ease or comfort as it produces any other sensation.

"In an incipient excurvation, the undue prominence of any of the vertebræ, or rather of their spinous processes, will be most displayed by bending the body forwards, in which position any unnatural projection becomes evident."

We have extracted very nearly the whole section on the diagnosis, because, in our opinion, it is clear and judicious.

When the health decidedly fails, and the case occurs in children less than six years of age, we think the caries will generally be developed; this, if there is no indication of rachitis, will sufficiently mark the distinction. Curvatures from other causes, in our experience, occur at a later period, and the general health does not suffer until the curvature has become established.

Treatment of Excurvation.—*1st. Means of Prevention and Indications of Cure.*—When blows have been received, or sprains encountered, or rheumatism of the back is present, or any cause producing inflammation or debility of the dorsal muscles, care should be taken to repose in the recumbent position, and the muscles relieved from the weight of the body, should be exercised in moderation, as the ingenuity of the practitioner may suggest.

The indications of treatment are thus given in the text:

"Some of the indications in the treatment of curvature of the spine are general, and will apply to its several varieties, whilst others will be particular, and peculiarly adapted to one variety only. The general indications applicable to all, are, to afford to the vertebral column effectual relief from pressure; to secure the bodies of the affected vertebræ from the irritation of motion in the erect attitude; to assist or enable the vertebral column to regain its true spinal line; to remove all constitutional and local symptoms of disease, and rectify all disor-

dered functions; to promote the general health. The first, second, and last indications may be considered, at present: the others will be more appropriately entered upon in treating of the several varieties."

2d. Treatment of Excurvation.—Mr. Bampfield has covered thirty-three pages with his directions for the treatment of this variety of spinal curvature. Notwithstanding that excurvation, "per se," is so rare with us, we will endeavor to follow the text, as many of the directions will equally well apply to the treatment of the other varieties of curvatures.

The five first pages are devoted to the recommendation of a facial, horizontal position, on a feather bed, for three months, and its advantages over the inclined plane and the dorsal position. Doubtless, in excurvation, the facial presents numerous advantages over the dorsal position. But, except in cases of caries of the vertebræ, good and recent surgery would resist to the utmost any such debilitating process. Frequent recumbency, in various positions, is an essential aid in restoring an excurvated spine to its natural position; but the chief means are exercise, change of air, tonics, and indeed all the means necessary to give strength to the dorsal muscles. Even in caries of the vertebræ, practical surgeons do not insist upon permanent recumbency; in this position the general health fails; *proper support* given to the spine and relieving it from the weight of the head, will enable the patient to use *some* exercise for a limited period, and thus greatly promote the general health.

We quote the following from the text, in confirmation of what is said above:

"After the facial horizontal position has been observed three months in conjunction with the mechanical means recommended, it very commonly occurs, that the spinal line of the lumbar and lower dorsal vertebræ becomes transferred anteriorly to the natural axis of the body, and when the patient is placed in the erect attitude, he no longer stoops forward as he did previously, but the shoulders and upper part of the column incline backwards, whilst the inward bend of the lower part or loins causes the abdomen to project forwards. When the spinal line is changed in the manner just described, the patient should lie alternately on the dorsal and facial horizontal positions, by which the column will soon regain its natural axis; for when the patient lies on his back, the spinal column gradually inclines outwards or backwards."

The spine, when treated by inaction, loses its self-supporting muscular power, and takes any position to which gravity inclines it.

Mr. Bampfield justly recommends extension when in a recumbent position, and thus describes the advantages of extension over mere pressure:

"If pressure be made on the key-stone, or centre of an arc, it only serves to confirm its strength, unless the abutments give way; pressure, therefore, alone, on a curved spine, will not display any powerful effects, or enable the surgeon to alter its form in any considerable degree. If, however, a power be applied to the extremes of an arc, by which the cuneiform pieces of matter can be separated from each other, and extended, and a strong mechanical weight be at the same time applied to the key-stone of the arc, the cuneiform ends on the concave line of curve will separate, and the whole will bend inwards, so as to approach a straight line and fall in; so it is in part with the curved spine, if pressure on the curve be employed in combination with extension of the extreme ends, it must be reduced more or less to a straight line, on each attempt, until, by a repetition of the process, this desirable end be in great part, or wholly accomplished. The analogy would be greater, and illustration clearer, if the mind suppose the arc

to be formed partly of elastic and partly of incompressible matter, like the constituent parts of the spine;—the principle, however, would be the same."

We are pleased to perceive that this extract is almost, in words and ideas, the antecedent of those used by the writer in an article on the same subject, published in the late New York Lancet. This extract, moreover, contains the substance of indications of cure, as promulgated by Guerin, particularly the great advantage of *bending* over mere extension and pressure.

Friction, shampooing, and pressure with the hand, are strongly recommended.

Strong pressure, by means of a broad bandage, is recommended; this is to be employed when the patient lies on the facial aspect, and it can be secured under the bedstead and thus exert a reasonable force.

The employment of *Issues* is next considered. To our mind, Mr. Bampfield takes the only tenable ground for their use; that is, when caries is ascertained to be present. We have known setons used in *lateral* curvatures even, with the greatest distress, and worse than useless effect. It is a matter of experience that suppuration established in the vicinity of a carious bone and tuberculous deposit in any situation, will often arrest the caries and prevent the softening of the tuberculous deposit.

Another question arises: shall Mr. Pott's recommendation of indiscriminate use of issues be sanctioned in all cases of caries of the vertebræ? We would make this distinction: when the caries appears to arise from a constitutional taint, then their use will be likely to be beneficial. In caries, resulting from injuries or inflammation (and such cases appear to exist, because of the previous good health of the patient and other reasons), the debilitating effects of a drain of pus should be avoided.

Again: when there is much pain, an issue will often relieve it.

The author's medical treatment is contained in the following extract, which commends itself to the approbation of the practical surgeon:

"In the incipient stage of curvature from muscular debility, especially in children, chalybeates* have been prescribed with much good effect, with an occasional laxative of pulv. rhei, twice a week.—In this stage, local cold bathing has been useful, by applying cold water, with a sponge to the back, during winter, and by cold affusion in the summer, provided there is no diathesis to pulmonic complaints, which would interdict its use. To recover or ensure the general health, the plainest diet, at regular intervals, should be enjoined, and yet the appetite preserved by a well-managed variety of simple food. The digestive organs are frequently deranged, and dyspepsia, obstipatio, and pain in the epigastric region prevail. The digestive functions have been strengthened, as well as the whole system, by obviating costiveness with rhubarb, or a combination of p. rhei, pil. hydr. et pulv. ipecac., and the exhibition of chalybeates, or the stomach bitters, with soda or other alkalies. The peculiar pain across the epigastre sometimes requires opium for its relief; this pain and screaming in sleep, I have known removed by occasional purgatives.†

"When the action of the kidneys is morbid, as may be inferred from the urine being scanty and turbid, and depositing lateritious sediments, it has commonly

---

*[No tonic is so useful in such cases, especially when scrofulous, as iodide of potassium or iodide of iron. I have often given, with good results, a powder composed of ten grains of phosphate of iron, and half a grain of iodide of potassium.]

†[The late eminent surgeon, Dr. Physick, almost always followed Mr. Pott in recommending daily purging in his cases of curvature with caries.]

been restored to health by the use of magn. carb., sodæ carbon., with stomachics and gentle aperients.

"The peculiar pain of the epigastre, nervous irritation, and irregular spasms, perhaps from the spinal nerves being somehow disordered, by the tortuous direction the spinal marrow is obliged to assume, have generally yielded to the above remedies, surgical and medical, as have also paralysis of the lower extremities and incontinence of urine. In paraplegia, friction on the skin, flexion, and extension of the limbs, and warmth, have been used in aid of the above treatment, The different pulmonic affections must be treated by the remedies ordinarily employed in asthma, pneumonia, and cough. It may be observed, that asthma sometimes induces general dropsy in a short time, with purple-colored lips, cheeks, feet, &c.; and is frequently fatal to those whose spines and chests are much distorted. The milder attacks of asthma are sometimes greatly relieved by the vapor bath, used with the other remedies. The observance of the facial horizontal position diminishes the frequency of recurrence of asthmatic paroxysms, and combined with the use of the bandage, has the most decidedly good effect in relieving harassing dyspnœa. Scrofula must be combated by appropriate remedies adapted to the different stages and symptoms of disease. In the inflammatory stage, frequent local bleeding, blisters, and setons, have been found useful during any accession or return of pain, with very slight alteratives at night, and a gentle hydragogue aperient in the morning, continued for a long period; when abscesses, or ulcerative absorption or caries are induced, and accompanied by emaciation, the bitters, sulp. acid. and cinchona, have their advantages.* I have seen cases of curvature of the spine, in which scrofulous ulcers and abscesses of the joints of the extremities have been formed, and in which tonics and alteratives have proved highly beneficial, as well as the sulphuric acid. When the bladder loses its expulsive power the catheter must be used until it regains it."

These, and the mechanical means, the author recommends to be continued for a month in slight cases, and six months when there is evident destruction of bone; at this period, the editor judiciously suggests the use of Guerin's sectional bed, Kissam's chair, or his own equally useful spine-car. They are all applicable, each in its place, for recumbency, for a sitting posture, and for limited locomotion.

The reader will remember that anchylosis is a necessary step in the cure of carious vertebræ; and that an angular projection, varying in size according to the extent of the disease, must necessarily result.

The author recommends exercise, in a recumbent position, by using the legs, arms, &c., and bending the back.

During convalescence, he says:

"When caries or ulcerative absorption of the bone and cartilage has been the cause of curvature, the exercises which bend the spine or throw any weight on it must be dispensed with, until the union by callus be perfect, and the bone is solid, otherwise there would be danger of fracture; for the anchylosis or bony union of the spinal column, after destruction of the vertebræ and cartilages, is not so strong as the column in its original state, being an exception to what occurs after the formation of callus in other bones, which become stronger at the point of callus. Experiments having proved that the strength of the vertebral column chiefly arises from the elasticity and strength of the intervertebral substance, which mainly unites them, and of which it is deprived by bony union filling up the whole chasm formed both by destroyed bones and cartilage."

---

* [The effect of the use of a spine-car on the pain is curious.—The relief is so prompt and certain as to enable me to promise it after the suspension in the car for a very few days. It thereafter seldom returns.]

Mr. Bampfield, in recommending the use of the various muscles implicated in the disease, discusses various contrivances to effect this purpose; we cannot, of course, enter into this detail; every intelligent surgeon knows the situation and use of these muscles, and according to the age, health, strength, and pecuniary condition of the patient, he can easily adopt exercises by his own contrivance.

"It is well known, that authors and surgeons are much divided in opinion, relative to the use of mechanical apparatus in spinal distortions, some trusting to them almost entirely for a cure, whilst others, as Mr. Wilson and Mr. Ward, altogether condemn their use. It may be observed that Mr. Pott disapproves of the use of spinal instruments in all cases of curvature, and that Sir James Earle recommends them when well-adapted, because he had witnessed the good effects arising from their use, and wishes to obviate the disinclination of practitioners to their employment, derived from the opinion and writings of Mr. Pott."

If any fact has been established in modern surgery, it is the usefulness of well directed mechanical aid in the restoration of deformities of the spine and feet.

Pott's attention was chiefly directed to those cases of curvature resulting from caries; then, of course, little or nothing can be effected by machinery.

Mr. Bampfield is judicious in his recommendation of the use of mechanical apparatus. He writes thus:

"In adverting again, to the differences of opinion, which have existed respecting the utility and propriety of employing mechanical apparatus for the cure and prevention of distortion, I would first observe, that they should not be trusted to alone in any case, as is too much the practice, where the patients apply to machinists who are not surgeons, or where the surgeons consulted have not turned their attention to the subject and refer the patients to machinists; but the mechanical apparatus of some form or other, can be employed, with advantage, in some stages of the complaint, provided their use only constitutes a part of the treatment, and is combined with such other means, as have been described and recommended in the different stages of the disease.

"I so far coincide with those who oppose the use of instruments, in believing them to be unnecessary and useless, in those stages of spinal disease in which I have stated the use of the horizontal posture to be indispensably requisite; indeed, when circumstances or symptoms render that posture advisable, the use of instruments is improper, and if employed as a substitute for it, the practice would be highly censurable, for no instrument or combination of instruments could so effectually relieve the spine from superincumbent weight and pressure, as proper horizontal position; as well might the surgeon, in a case of scrofulous inflammation of the knee-joint, put on an instrument to restrain its motion, and desire the patient to walk about on it! The use of instruments, for instance of the collar, will not relieve the disordered respiration, whether dyspnœa or asthma; their use will not prevent the accession of fits or chorea; neither will they conduce to the cure of paraplegia, nor remove the sense of corded tightness across the epigastre, so effectually, as proper recumbent posture, and, indeed, they frequently fail in those objects entirely, and the patient gets worse under the use of the collar.

"Instruments for stretching and supporting the vertebral column, should not be employed during scrofulous or simple inflammation, or caries, or vertebral destruction by absorption, neither should they be resorted to during the regeneration of bone. During inflammation, the stretching of the ligaments would irritate and probably increase it, and the support from the collar would not be effectual in taking off all superincumbent weight and pressure. During, or after extensive destruction from ulcerative or progressive absorption, the remains of the vertebræ might be fractured by forcible stretching even by the windlass, and much more likely by the mode of stretching the spine by suspension by the head.

"During infancy, I have not employed powerful extension in the cure of excurvations, or any other form of curvature, and have consequently avoided all the mechanical apparatus for stretching the spine, and have never used the collar for its support, as I was apprehensive, at that tender age, of doing injury by straining muscles or dislocating joints; nor is such a practice necessary, as the numerous excurvations at that age are cured with greater facility than at any other. Indeed, the use of the pad and bandage well applied, in union sometimes with the shield, assisted by tonic medicines, the cold bath, and attention to the digestive functions and excretions, generally effect a perfect cure in twelve months, without the aid of instruments."

We shall speak more in detail of mechanical means when on the treatment of lateral curvatures.

Incurvation of the Spine.—History and Symptoms.

"Incurvations of the Spine are less frequent than the other species, and do not describe such large curves as they exhibit.

"Incurvations are rarely attended with the serious consequences that ensue from the other curvatures, and will only require a brief notice. It generally, perhaps always, takes place in the cervical, lumbar, or lower dorsal vertebra, from disease. By some rare accident, a power may be applied to some dorsal vertebra, which shall force them from their natural axis, into a state of incurvation, as is said to have happened to Colonel Sibthorpe.—*Medical and Physical Journal, for March*, 1823."

We would add, that incurvation is most generally a congenital deformity, and is not productive of serious consequences, unless the incurvation be extreme; when, if the subject be a female, parturition may be interfered with, from the lumbar vertebræ pressing into and partially filling up the superior strait of the pelvis.

Treatment.

"In all cases of incurvation, the dorsal horizontal position is the most proper; if the incurvation be of the cervical vertebræ, the chin should be drawn in towards the neck, which tends to throw the cervical vertebræ backwards; if of the loins, the flexion of the thighs tends to remove it, but this flexion should not be constantly employed, as it would dispose the flexor muscles of the thigh to establish a permanent contraction."

This, with the horizontal position, constitutes the principles of treatment peculiar to incurvation. All the tonic practice may be resorted to with advantage, especially sea-bathing and change of air.

Lateral Curvature.—This is an important chapter, and in America, in our experience, is of much more frequent occurrence than excurvation.

"This disease almost universally occurs *during the growth of the body*, and is almost as common as excurvation. It rarely occurs in infancy, or after the adult age.

"It has been remarked by Mr. Ward, p. 25, that the curvature takes place more frequently towards the right side than the left: as my experience is the reverse of this statement, it is probable both sides are equally liable to it, that is, *to the first or dorsal curvature*;*—for lateral curvatures are single, double, or triple; and in the latter cases are ambilateral.

"The first deviations of the spine from its natural axis to an inclination to either side, are seldom observed, and the first symptom that frequently awakens the attention, and alarms the apprehension of the parents of children and young persons, is the elevation of one of the shoulders; or the depression of the opposite one may first strike them. When, however, it is noticed, from three to five of the spinous processes may be seen to form a gradual and slight curve to one side, more especially when the patient is standing or sitting upright: this curve

* [Mr. Ward states that, of 240 cases of lateral curvature, 230 were on the right side. I have rarely seen left lateral curvature; so that we must suppose Mr. Bampfield's experience to have been, on this head, singular.—Ed.]

almost always begins in the middle of the vertebral column, from the cause explained and illustrated at p. 25. In the incipient stage, when the curve embraces from five to seven vertebræ, it bears a resemblance to the Italic letter *f*, and in this state it can be frequently reduced to the spinal line by recumbent posture and extension.* At this period, symptoms of nervous irritation and derangement, or of diminished nervous energy, are far from being common accompaniments, nor indeed do they constantly occur at any stage of the progress of the distortion; I have, however, seen them early induced with much severity, producing irregular convulsive actions of the muscles of the upper and lower extremities; of the muscles of the eyes; and, in some rare instances, general convulsions have supervened, especially towards night. Muscular debility and a bad state of health have generally ensued from, or accompanied symptoms of nervous disorder.

"When the predisposition to lateral curvature is once established, and has produced its elementary effects, those effects lay the basis, or become additional causes of future increase, whose power is independent of the pristine sources or remote causes of malady, and is augmented in the ratio of its progress by the mechanical principle mentioned at p. 56. As soon as the lateral curvature is formed in the dorsal portion of the spine, the ordinary centre of gravity of the body is lost, and, in order to maintain its equilibrium, the patient inclines the cervical and lumbar portions of the spine in the reverse direction, and in the course of time, if it be supposed the curve of the dorsal portion be on the left side, the cervical and lumbar portions will form curves, having their convexity to the right, and thus, as the process of distortion advances, the whole spine will be thrown into unnatural shapes and attitudes of deformity, by which it deviates entirely from the spinal line, and is gradually changed from the form of the Italic *f* (s), to a shape more like the Greek ς (sigma), with three curves in the last stage, when there is complete formation of ambilateral curvature. This advanced stage of lost symmetry has been more commonly compared to the figure of the Roman S, but it bears no resemblance to it, nor would it be possible to make the spine assume such a shape by any mechanical force; for if bent into that form, the head would necessarily be inclined over, and hanging down on the side of the body.

"As the distortion of the spine has advanced in the directions above-mentioned, the scapula and clavicle on one side have the appearance of being depressed lower than the other, and of being smaller in size, and they are in fact distant one or two inches more from the head than those on the other side, whilst the opposite shoulder is more prominent, and appears elevated."

"Lateral curvatures are formed by slow degrees; but here, as in excurvation, if the patient be assailed by an acute disease, such as fever, or any of the exanthemata, which induces great debility, the progress of the disorder proceeds very rapidly, until the strength is regained."

"Instances of carious vertebræ in this variety of curvature are very rare, and where they have occurred, the caries has been occasioned by scrofulous action, which has extended to the intervertebral cartilages and ligaments, and excited an ulcerative action in them, from the joint effects of which the vertebral joints have been destroyed, and the necessity of a curve by anchylosis induced, as in excurvation. In the generality of cases, however, the integrity of the joints is preserved, and their articulations are so distinctly maintained, as to allow of considerable motion in all directions, with the body bent to one side, or curved in different directions to both. The bodies of the vertebræ may become very thin, and shaped like a sharp wedge on the concave side, whilst they retain their proper breadth on the other; but, however great the curvatures, the bodies of the vertebræ and intervertebral substance are not entirely destroyed, as occurs both from ulcerative and progressive absorption in excurvation. This probably depends upon some law peculiar to rickets.

"Lateral curvatures of the cervical vertebræ only occasionally occur; in Mr.

* [This) is the usual form, to the right above, and to the left below.—Ed.]

Brook's Museum, there is a rare specimen of an irregular growth of bone producing lateral curvature of the upper cervical vertebræ in an adult,* without evincing any appearance of caries or of rickets. The first, second, and third cervical vertebræ are united to each other and to the occipital bone, by anchylosis; and a bony septum of considerable size is thrown across the commencement of the spinal canal. The line of curvature on the right side measures one inch three lines, and on the left side, two inches four lines; so that there is a difference of one inch and one line between the convex and concave lines of curve, and consequently of the thickness of the vertebræ.

"This cure by anchylosis is one exception to the general rule. Specimens in the London museums, however, exhibit anchylosis of the transverse and articulatory processes, as well as of the ribs, induced in lateral curvature, yet in such instances even, there is scarcely a mark of anchylosis of the bodies of the vertebræ. The distorted disposition and altered proportions of the vertebræ and ribs, necessarily produce changes in the muscles attached to them. For the approximation or contact of the ribs on the concave side of the curve, the intercostal muscles are shortened and almost obliterated in some instances, which is the case of the intertransversalis muscles. These muscles are necessarily obliterated, where anchylosis of the costæ and transverse processes has been formed. From the approximation of the edges of the false ribs, to the brim of the pelvis on the side of the body, corresponding with the concave side of the dorsal curve, the abdominal muscles on that side are contracted or shortened in dimensions, whilst the descent of the scapula and clavicle on this side, occasions an elongation of the muscles connected by their attachments to, and situated between the head and the cervical vertebræ, and the clavicle, scapula and ribs. The condition of the dorsal muscles is much altered, as, on the convex sides of the curvatures, they are stretched, and in some degree lengthened and are larger, and on the concave side, they are shortened or contracted, and are smaller, and in the proportion of their permanently contracted or shortened state, is the original contractile power, exerted by those muscles, diminished; whilst, on the opposite or convex side, the contractile power remains in full force, yet the rigidity of the muscles in a state of permanent contraction and shortness on the concavity of the curvature, offers great resistance to the reduction of the vertebral column to its spinal line, although the muscles situated on the concave side possess less density, and appear somewhat wasted.

"Some of the spinal muscles present particular and unnatural appearances;—for instance, on the convex side of the dorsal curve, particularly if the vertebral ends of the ribs project or grow backwards, the longissimus dorsi and sacro-lumbalis appear so full and prominent as to protrude backwards like a tumor,† and, from the displacement of the scapula, it sometimes happens that the edge of the latissimus dorsi does not pass over the lower angle of the scapula, but lies below it. From the altered position of the scapulæ, some of the muscles inserted into them must be lengthened and others shortened, and the action of others must be deranged by the altered direction their fibres are thrown into. In lateral curvature, as in excurvation, the lost power of the shortened muscles has been mistaken and described by authors, as a state of paralysis.—See p. 21, *et seq.*"

"In the generality of cases of lateral curvature, there is not any pain complained of in the course of the curves, nor is any felt or excited by pressure; nor is the power of the muscles so much weakened in general, as in excurvation. Yet, when scrofulous irritation and inflammation, with the results described in the last paragraph, are experienced by the bones and medulla spinalis, pain is felt in the course of the curvature; spasms of the extremities and diaphragm take place; the muscles of the extremities become disobedient to the will, and the patient cannot walk steady, or the muscles may become paralytic;‡ obstinate constipa-

* *i. e.* The skeleton is that of an adult.

† Mr Shaw observes, that he has known this appearance mistaken for large tumor.—*On Distortions*, p. 113.

‡ It has been observed by many authors, that the condition of the muscles in the paralysis from diseased spine, differs from that in ordinary palsy, and that the muscles are not so soft, but the joints are more rigid.

tion ensues; incontinence of urine and fæces casually happens; dyspnœa with a sense of suffocation occurs; the irritation of the medulla spinalis is communicated to the nerves united to and proceeding from it, and various nervous symptoms and feelings are induced; in young females, hysteria sometimes takes place, and the menstruation is painful or suppressed; —this latter event is, however, more common in excurvations, as should have been observed. It may be stated that Mr. Lloyd relates a case of lateral curvature attended with lumbar abscess.—Pp. 258, *on Scrofula.* This is an uncommon occurrence."

These are extended extracts, but the importance of the subject justifies us. Those of our readers, who have no standard work on curvatures of the spine, will be benefited, as these extracts contain descriptions which are as true to-day as at the time they were written.

Remote Causes.

"The remote causes of lateral curvature are rachitis, or disproportion of growth of the sides of the vertebræ; unequal length of the lower extremities; undue pressure on one side of the vertebral column from carrying heavy weights on one arm, by which the spine is bent to one side; an inclined position of the body to one side long continued; muscular debility; rheumatism of the intercostal and dorsal muscles; abscess on the side of the neck or trunk; scrofula; tumors. Is unequal action of the dorsal muscles a cause?"

"I have seen instances of lateral curvature produced by a habit of long continued inclination of the body to one side, after the adult age, in insane persons; in the young and growing, this is a more common event. Young artists of both sexes are liable to lateral curvature from this cause, from adopting a habit of sitting before their paintings and drawings with an inclination of the body to the left side, with the left arm resting on the elbow or hanging by the side, sometimes with the palette in the left hand, whilst the right arm and shoulder are raised, for the purpose of directing the pencil, and the head is directed to the left shoulder, and in this position the spine is kept in a state of lateral curvature, for a long continuance of time.

"Some eminent artists in London are distorted from this cause. Young ladies and boys who sleep two in a bed are apt to lie always on the same side of the body and bed, and become liable to lateral curvature from this cause, as are all young persons who sleep constantly on one side, with the side of the head and shoulder resting on pillows, as in that position the spinal column is bent into a lateral curve. Young persons who always sit on the same side of a fire or window, are also liable, by acquiring a habit of leaning to one side."

"Of all the causes (supposed or real) of lateral curvature, there is not one, the belief of which has obtained so generally and popularly among the profession, as the unequal action of the dorsal muscles; and yet, I have not met with one, whose explanation of the modus operandi of this cause, carried conviction, or whose proofs could be considered conclusive. To produce unequal action of similar muscles, there must previously exist unequal power, or one set of muscles must act spasmodically. I have never seen spasms of the dorsal muscles become permanent or followed by permanent lateral curvature. How are we to ascertain that an unequal power exists? This cannot be demonstrated.

"It is, therefore, assumed, by the abettors of this doctrine, that it is so; and they infer, that the set of dorsal muscles which are deficient in power, are overcome, and suffer the spine to bend to the side on which the stronger set of musoles are situated, and this side is said to be the concave; now it so happens, that in cases where proofs of diminished power of the dorsal muscles on one side exist, the very reverse happens; for instance, if a person receive a contusion or wound of the dorsal muscles, which necessarily weakens them, he invariably inclines to that side, and is not drawn to the opposite side, where the power of the dorsal muscles remains entire. Besides, it is a fact that dissection has disclosed, and which an accurate observation of the living will evince, that the muscles on the concave side of a lateral curvature, whose power is assumed to be the greatest, are both

smaller and shorter than those on the convex side, and if the power of muscles be in ratio of their density and length combined (see pp. 21 & 22) the above inference must be incorrect, and the explanation deemed unsatisfactory. Again, if the inference were true, and the muscles on the concave side of the curve occasioned that curve, by their greater power of contraction, a very singular pathological phenomenon would be presented in the double or triple lateral curvatures; for instance, the dorsal muscles on one side of the spine would, by their greater power, produce a curve in the central parts of the spine, and on the other side, by the same cause, a curve above, and a curve below it, in the cervical and lumbar portions in an opposite direction; so that we should have both sets of muscles contracting, in different portions of their length, both stronger and weaker at the same time, or one portion of a muscle must be in forcible contraction, whilst the other is relaxed, which is neither consistent with reason nor analogy.

"I have observed the condition and action of the dorsal muscles in the earliest stages of lateral curvature, attended with muscular debility; and the following were the phenomena they represented. After the patient has kept the spine erect, until the muscles are fatigued, the spinal column suddenly sinks down, and bends to one side, and the patient inclines to the other, to maintain the balance. In this state, they remain quiescent.

"Some fashionable follies of modern education are justly accused of producing this species of curvature, especially in young females, first, by establishing habits that deprive the muscles of the back of their natural exercise and actions, and thus prevent the attainment of their natural strength, or, by their inaction, induce debility; and, secondly, whilst in this state of debility, by endeavoring to subject the spinal muscles to more exertion than they are capable of using, in the injunctions they receive, to keep the body constantly erect, in the standing and sitting attitudes. Thus the spinal muscles of young females are doomed to inaction, by the trunks of their bodies being imprisoned in stiff stays, or their movements abridged and confined by the use of collars, braces, backboards, or by being stretched motionless on reclining boards, or school-room floors; — or they are subjected to long continued exertion, and the use of one posture, which all our muscles abhor, and soon become weary of, by being placed in education chairs or stools, the long forms of school-rooms, or on the round stool, to practise for hours on the piano-forte or harp, with strict injunctions to keep the body quite upright, and menaces of punishment if they stoop or bend in the least; but the muscles must sometimes obey divine, instead of human laws, and when fatigued and weary in the erect posture, must gradually follow the Creator's law, and seek repose, by allowing the body to sink into an inclination to one side or the other, and, by laying the basis of lateral curvature, produce the reverse of what human wisdom intended. Thus, from too much anxiety about the elegant and proper development of the female figure, tyrant fashion, under the apparent sanction of custom, and the specious guise of education, has usurped the prerogatives of nature, has abolished the freedom of muscular action, and has presumptuously substituted the rules of art to direct the growth, and mould the form of the human figure, and direct its muscular powers! — Surely the Creator never intended these restraints; nature disdains them; and *he* who gave us powers to maintain the spine erect, also ordained its form to be bent, and its movements to be unfettered. Before man became subject to the influence of refined civilisation, he enjoyed the privilege of free exercise of all his muscles, in the most untutored and unlimited manner, practised what attitudes he pleased, indulged in such sports and pastimes as he listed, and when weary, assumed the recumbent posture he chose, without being shackled by the dictates of art; spinal deformity was then unknown to those who lived in a free state of nature, often called savage or barbarous. The growth of the body, the proportions of form, the adjustment of the figure, the turn and directions of the bones, were left to the unerring hand of nature, and freedom of muscular movements. But, by the force of cruel fashion, nature is almost forsaken, and art is so preposterous and assuming as to offer dictates, and prescribe directions to form the body agreeably to its natural configuration; and parents, and proprietors of female seminaries or schools, are so silly and unreasonable as to submit to their guidance. Nay, this submission to the suggestion and dictates of

art has even been made in one department of our government, and in a great national institution for the rearing of orphan children of soldiers, there is established the appointment of an exercise and figure master, with the pay of a captain in the army, who is to control and give a proper direction to the growth of the body, 'to teach the young idea how *to shoot*,' and elicit and confer tone on all their powers, by artificial exercises of particular muscles, in a numerous train of movements, and list of attitudes.* Against these artificial habits and customs, wisdom has launched its mandates, genius has levelled its enlightening arguments, experience has pronounced its judgment, reason has fulminated its reproaches, wit has pointed its keen shafts of ridicule, and authority has proclaimed its interdictions; yet the folly of fashion increases, and its prevalence extends! In passing through the school-rooms of the seminaries for young ladies, what can be more appalling and preposterous, than to see the motionless figures of a long row of young ladies lying on inclined or horizontal planes of deal boards, 'like *patients* on a monument smiling at the white-washed ceilings,' or like the mute statues on tomb-stones of those interred beneath, and from which we should hardly distinguish them, were it not for the occasional movements of the muscles of their (should be) brilliant eyes, or laughter-loving muscles of the face, whose situation defies control and eludes confinement. The conduct of boys' modern schools is, also, exposed to serious objections, in common with the girls' schools. Boys and girls are too much shut up in small play-grounds, like prison yards, instead of being allowed to range the valley free, or girls have small gardens to walk in enclosed by high walls, like those of the asylums for the insane. What can be more contrary to nature's freedom of movement, than marching schools of boys and girls, in rank and file, like the boys at the military asylum, instead of allowing them to move at ease, in any place they prefer, or are prompted to?"

It will be seen by these pages, quoted from the text, that even Mr. Bampfield has a partisan view of the causes of the lateral curvature. To us it appears somewhat remarkable, that gentlemen writing on scientific subjects should deem it necessary to enter the lists as partisans.

From the great variety of causes stated above, and cases adduced in illustration of them, it appears clear to our mind, that spinal curvatures, without caries, may and are produced by very many different causes.

Bad positions, unequal muscular action, rapid growth of body, diminished supply of bony material, inflammatory action of the dorsal muscles, and more than all, unequal action of the muscles, moving and supporting the spine, induced by nervous irritation, which comes from bad school management and over civilisation,—all are causes to be recognized by the eclectic and practical surgeon.

It would be easy to write a volume on the abuse of the nervous system, and its effects in producing paralysis of muscles, as well as diminished and increased action.

Guerin is right in supposing the cause of lateral curvature to arise from unequal muscular action, caused by diseases of the brain and nervous system; but he is undoubtedly wrong in allowing no other primary causes.

We have not unfrequently treated placid country girls for lateral curvature, whose nervous systems were as little excited as their quiet lives, amid natural scenes, were inoffensive and unsophisticated.

Immediate Causes.

"The immediate causes of lateral curvature are the same as of permanent spinal distortion in general, and will be found in the morbid alteration of

---

* This practice is said to be introducing into our great schools.

structure of the sides of the spinal column, producing such a disproportion between them, as renders it impossible to restore it at once to the perpendicular figure, and retain it in its true spinal line. This alteration of structure is rarely effected by scrofulous caries, or ulcerative absorption, on one side of the bodies of the vertebræ, and when it is produced, the curvature is generally single, and the scrofulous caries only affects one or two vertebræ.

"When scrofulous inflammation and ulceration attack the horizontal surfaces of the bodies of the vertebræ, or intervertebral cartilage, there does not appear any exclusive reason, why they should not particularly affect one side only of the horizontal surfaces of the vertebræ, and produce a lateral curve; but still the fact is otherwise, for it generally attacks the whole horizontal surfaces, and produces excurvation, to which some degree of lateral curvature is sometimes superadded, by one side of the bones being subsequently absorbed, rather more than the other parts of the horizontal surfaces.

"The ordinary lateral curvature, to which that just mentioned is a rare exception, effects many vertebræ, and is produced by progressive absorption, or by an undue growth of bone combined with it. I shall now endeavor to establish the connexion between cause and effect, and prove the adequateness of one to produce the other, but shall first remind the reader that topical pressure is the most powerful agent for producing local absorption."

"Patients affected with lateral curvature seldom lose their lives, even when the disease has been left to nature, unless scrofulously affected. It, however, permanently occasions dyspnœa and asthma, and the health of the subjects of this curvature is generally delicate, and easily disordered, but there are many exceptions to this observation, and, aided by a guarded regimen and regular habits, a good share of health may be enjoyed by those doomed to endure for ever this deranged structure."

The author here continues his opinion of "progressive absorption" of the vertebræ as the immediate cause of curvature.

We have examined numerous specimens of spines, the result of lateral curvatures, and our observations on many of them lead us to think that the cuneiform shape of the individual vertebræ is not produced by absorption alone, but by pressure, rendering the thin side more dense, and the opposite and thick side, being relieved from pressure, more porous. We think, if a single vertebra of this kind should be divided antero-posteriorly, the weight of each half would be nearly equal; the fluid and lighter parts being absorbed, whilst the bony constituents on the one side are condensed and on the other expanded.

Treatment.—The author considers this under two heads. 1st. From unequal length of limbs. When one of the legs is shorter than the other, it becomes evident that the treatment must commence with remedying the defects of inequality. Whether this shortness arises from want of development, deficiency of the plantar-arch, or bow-leg, the leg must be made to correspond in length with the other; afterwards, if the curvature persists, the means to be now pointed out, must be adopted.

The author suggests, that if the disease existing in the shortened leg is of such a nature that mechanical means would prove injurious, that the patient should take the horizontal position for a time. The exercises, recommended under the head of excurvation, may be used with advantage.

Issues and setons, of course, do no good in such cases.

When curvature proceeds from mal-position, this must be corrected; artists must use the other arm; children, sleeping on one side only, must change their habits; if carrying weights on one side be the cause, the burthen must be shifted.

A general tonic course is also recommended.

"It has appeared to me desirable, that the exercises in general directed for lateral curvature, should call into action, *in an equal degree*, the spinal muscles on each side of the spine, the muscles on both sides of the trunk, and the muscles on both arms, as such modifications of muscular action have a tendency to reduce the spine to its spinal line. Thus, flexion and extension of the spine exercise equally the spinal muscles. The muscles of the trunk and arms may be exercised in an equal ratio, in the sitting or standing postures, by placing the body between, and turning two wheels, fastened to a frame, or door-posts, with handles that have levers of the length of the semi-diameter of their circumference. The wheels may be of various sizes, and fixed higher or lower on the frame, as in proportion to their weight, will the muscles be exerted; and the levers may be of various lengths, as in the proportion of their length, will the body be obliged to perform greater or less flexion and extension in their rotation. If the latter should be small, let the lever be short; if flexion and extension of the spine should be considered, let the levers be long. This mode of exercise, either in the sitting or standing position, is applicable to lateral curvature from all the causes already enumerated, and is, in general, very useful, where exercise is proper. Light dumb bells may be used.

"Weak young ladies and boys, who are made to sit for long periods on stools or benches without any support to their backs, as on school benches or in learning music lessons, and who are obliged to assume the attitude of easy grace of some ancient statues, as of the Venus de Medicis or Antinous, but which is one of incipient lateral distortion, should be accommodated with a chair with a properly formed back, and the strength of their muscles should be increased by the institution of exercises recommended in the sitting and standing postures, whilst their general health and strength should be promoted by tonics, regimen, and good air."

Mr. Bampfield inclines very strongly to treat these cases in a recumbent position—encouraging exercise in that situation.

"The spine should be kept as long and as often extended, by mechanical contrivances affixed to the cross-pieces of the couch-frame, or by persons pulling at the extremities, as the patient can conveniently endure. Some degree of permanent extension or for a long period, can be effected by the patient applying Dr. Darwin's steel bow to the head, whilst he lies on an inclined plane, with or without weights appended to his feet. P. 92. The moveable inclined plane of Mr. Shaw is equally applicable, and its use is equally advantageous. P. 87. Temporary extension may be employed with the windlass, as described at p. 92.

"During extension, the surgeon, or some one under his direction, should, for half an hour or one hour or more a day, employ pressure with his hands on the curved portions of the spine and on the projections of the ribs; with his thumbs placed against the sides of the spinous processes, on the convex side of the curve, he can press the vertebræ towards the spinal line, and, by laying the palms of his hands on the backward costal projections, he can press them forwards, and, by giving a lateral direction to the pressure, cause the vertebral extremities of the ribs to aid in directing the distorted vertebræ to their natural axis. Where there are two or three curvatures, a person may act on each side."

By this, it will be seen, he does not lay much stress upon extension and pressure.

"Dyspnœa is a troublesome symptom in the advanced stages of lateral or ambilateral curvatures, and continues during life, if the curves be not removed; the most effectual relief I have found for it, is lying in the oblique position on the projection I have described, which tends to enlarge the capacity of the thorax and the power of expansion of the lungs, and to obviate the compression the lungs are subject to from the backward projection of the ribs and their approximation to the vertebræ.

"A gentleman of great acuteness and intelligence and much mental energy, who consulted me on account of lateral curvature, assures me that he invariably finds relief from dyspnœa by lying down on the costal projection which I recommended to him, and he is of the opinion, from personal experience, I cannot attach too much importance to the inculcation of the observance of the oblique lateral position, in this species of distortion.

"The particular recumbent posture recommended, is also the best remedy for the cure of nervous symptoms, resembling chorea sancti viti, irregular actions of the muscles, fits, pain of the head, and spasmodic affections of muscles, as of the extremities, eyes, &c., with which tonics, chalybeates, and aperients may be combined."

The following lines, in our opinion, contain judicious advice:

"If pain has arisen in any portion of the spine, local bleeding and blisters have been used, but they are not often indicated. In the rickety variety, issues and setons are not necessary."

The only cases of lateral curvature, requiring issues, are thus described:

"It has been stated that scrofulous inflammation, ulceration, and caries have been known to destroy the lateral portions of the vertebræ and intervertebral substance, and the spinal column being deprived of its natural support on either side, must incline on that side, so as to form a lateral curvature. Although this case is of very rare occurrence, yet it is of great importance, because it is the variety that has a direct tendency to destroy life. In this case, the pain is felt in some portion of the curvature, both on mechanical pressure on the part, and on the patient using exercise in the erect posture, which induces him to assume the recumbent position; the patient sometimes experiences acute lancinating pains of the back, and screams in his sleep; in lateral curvature, from rickets, &c., the patient very seldom complains of pain, or seeks the recumbent posture, nor is it excited by the mechanical means of cure; in the scrofulous variety, the general health usually suffers from the first, or if the appetite and digestive functions be not remarkably disordered, yet the nutritive function is impaired, and the patient becomes emaciated, pale, irritable, and weak.

"After the ulcerative process is established, and the bone becomes carious, and the intervertebral substance and ligaments partake of the disease, and pus collects behind the mediastinum or peritoneum, and perhaps makes its way to the surface of the body; the pains increase, hectic fever is induced, the patient cannot bear an erect attitude, emaciation advances, and the patient dies. In such cases, local counter-irritation, and remedies for subduing local inflammation, should be employed; issues, setons, leeches, cupping, blisters, are all useful. I have found gentle alteratives and a daily hydragogue aperient the most useful medicines in the inflammatory stage. A diet of easy digestion should be prescribed. After the suppuration, that system of treatment that is best calculated to support the patient should be adopted.

"A recumbent posture should be enjoined in the inflammatory stages; in the state of caries instinct prompts it, and extension and pressure should be so gentle as not to excite pain."

Mr. Bampfield states his views of the use of mechanical contrivances as follows, in which he takes an eclectic position; had he written at this date, he probably would have inclined more in their favor, from the great improvements made in their construction and capacity:

"In the very early stages of this disease, when the curvature is directly lateral, and there is no pain or tortuosity of the spine, a cure may be attempted, without having recourse to the recumbent posture, by proper exercises of the dorsal muscles and those of the trunk; by wearing the spine machine or collar, with lateral

and axillary supports, and the rods for supporting the head, as often as the patient uses the erect attitude, and by the remedies employed for the cure of rachitis. This instrument should be worn in all cases, whenever the patient is obliged to assume the upright posture, and if a cure cannot be effected, this instrument, varied for particular purposes, must be worn. If instruments be injurious at all, they must be so in curvatures attended with rachitis, when the bones are soft and yielding. I therefore revert to the subject of the use of instruments. As all the spine instruments embrace and rest upon the pelvis, as their base of support, they have been objected to by many eminent surgeons, whilst their employment has been defended by others, and great authorities may be quoted on both sides of the question.* The bad effects are attributed to a weight or burthen being thrown on parts never intended or calculated to bear them, by which the pelvis is irreparably distorted, and females suffer, during parturition, from pelvic deformity, preventing or retarding the passage of the fœtus.

"Their good effects are derived from taking off weight from parts predisposed to be disorganized by undue pressure, and keeping the spine erect. The latter are positively good; the former appear to be evils too much overrated, and the effect not *distinctly* proved to arise from the use of instruments, in any case; they are inferred from the sometimes erroneous maxim of *post hoc, ergo propter hoc*, a maxim rather incautiously admitted as true in the instance under consideration. During the existence of a rickety diathesis, it seems to be a correct fact to state, that there is no law belonging to rachitis which limits its influence to any particular bones; all the bones are subject to its influence, but different bones are affected in different persons; in many, the extremities are bowed and deformed; in others, the spine is curved; and, in a few, the bones of the pelvis are distorted; but it seldom happens that the pelvis is distorted when the spine is curved, and not often that the spine is curved when the extremities are bowed.

"It will be proper to consider if the bones most implicated in deformity of the pelvis, whose distortion prevents or impedes parturition, are those the most subject to pressure from spinal instruments. The superior aperture of the pelvis is the most common seat of distortion, and this more particularly arises from the 5th lumbar vertebræ and the upper part of the sacrum projecting inwards. The os coccygis may be pressed inwards; the sacrum may be too straight; the ischia may be distorted by an unnatural bend of their spinous processes; or the tuberosities of the ischia may be bent inwards or forwards, or the ossa pubis may be curved so as to diminish the superior aperture;—and, by all those deviations of structure, the passage of the fœtus through the pelvic apertures is obstructed.

"Does the spine instrument press upon any of the particular parts enumerated? it certainly does not,—as its particular pressure is made upon the spine of the ilium, and it does not touch the sacrum, os coccygis, or tuberosities of the ischia; and the pubis is only crossed by the strap, or is not touched at all. Again, the part of the instrument embracing the pelvis is made to fit its natural shape, and must rather tend to preserve its form than occasion its distortion; besides, as the greatest pressure is on the sides of the pelvis, this would tend to widen the space between the ossa pubis and sacrum, and preserve the pelvis from deformity, rather than to occasion that obstruction of it which is usual in distortion of the pelvis. Still, there is a way by which spine instruments may do injury; for as those instruments are generally worn during the growth of the body, if an instrument adapted to the size of the pelvis at one age be continued in use until the patient be older, and the dimensions of the pelvis larger, it may repress the growth of the ilium, and alter its conformation."

The spine-chair of the writer of this notice, as well as Dr. Mitchell's spine-car, are so constructed that no undue pressure is given to the bones of the pelvis. Gravity is the counteracting force to extension and pressure.

---

* [No such objection applies to the spine-car of the editor, and the spine-chairs of Darwin, Shaw, and Kissam, as they do not throw the weight on the pelvis.—Ed.]

The health invariably improves under the use of the spine-chair, as is manifestly shown by the increase of development and weight.

In answer to objections against the recumbent position, the following is urged:

"It has of late been urged as an objection to the long continuance of the recumbent posture, that it produces a soft state of the bones; I must not doubt such statements, but I cannot help observing, that I have had many opportunities of examining persons who have died after having been many years bed-ridden, and I have not witnessed in them a soft state of the bones, nor such as is observed in rachitis. Were this a general fact, in no species of curvature would recumbent posture be so properly objectionable, as in the lateral one; nor could the rickety diathesis be expected to be cured during its use, but every day's experience refutes such a conclusion.

"'It may be stated as a law of animal economy,' says Mr. Shaw, 'that *the active exercise of an organ is necessary not only to its perfection, but even to its preservation.** This is often exemplified by the state of the parts which are kept in due activity; for, if they are not exercised, they degenerate, so as even to lose their peculiar characters, and gradually to become similar in structure to the common cellular membrane.' From this it is inferred that the cellular texture is not only the original matter in which bone, muscle, and nerve are deposited, but that from which other parts are formed. If it had been assumed that the exercise of an organ is necessary to its functional perfection, it would have met with a general concurrence; but when it is added that it is necessary to its preservation, that is stated to be a law of the animal economy, which will not be readily assented to. The experienced physiologist will have observed many instances of persons, who, from obesity and corpulence, have, for years, been deprived of the due activity and exercise of their muscles, especially of the lower extremities, in whom the muscles have not wasted, the bones have not been softened, and in whom, the bursæ, capsules, and ligaments, do not form one distinct mass of cellular substance. He will have seen many, who, from advanced age or infirmities, have been bed-ridden for ten or twelve years or more, and have been necessarily inactive, and yet the muscles, bones, joints, and their constituent parts, have been preserved, and show their external character and uses very distinctly. In the case of Ann Selby (*See Chap. on Spina Bifida*) all these parts were organized, preserved, and distinctly cognizable, and might be stated to be perfect, except the spine, although they had never been kept 'in due activity,' and hardly used at all from her birth. If 'the active exercise of organs were actually necessary to their preservation,' wo be to old maids and bachelors, nuns and friars, and the barren, for their genitals must be converted to fat. Wo to the man affected with inactive obesity, for he must become a mass of 'common cellular membrane.'"

"In all cases of softened bone, mentioned by Mr. Shaw in his valuable work, at p. 6 *et seq.*, the bone had been either wounded, fractured, or dislocated, and had, consequently, been subject to diseased action, and the osseous condition had not been changed by mere disuse, whilst the body was in health. Does not a solid bony union of fractures take place during the motionless quiescence and perfect inactivity of the limb? Teeth neither decay nor waste, nor become soft from disuse, as where those opposed to them in the opposite jaw are drawn; but they enlarge and retain their hardness."

"Exercise of parts during disease does not prevent muscles from wasting; for patients with spinal curvatures have been subject to a wasting and paralysis of muscles, who have persevered in exercise as long as they were able, as was the case of H. Peckham, Miss Ward, &c. And, after constitutional disease has

---

* See p. 1 and 46, on "Distortions, by John Shaw."

been cured, the patients' muscles do recover their power of exercise, their plumpness and activity, whilst they have continued the horizontal posture.

"As far as physiologists trace the rudiments of the fœtus with precision, they discover the different varieties of structure existing at an early period of growth;—that Nature has given to every variety of structure a principle or power, or organs of formation peculiar to itself, which continue to form and maintain the same structure from the cradle to the grave, unless their action be changed by disease; and that organs or vessels, forming or secreting bone, cannot depart from the creative law established by Nature, and the secret cellular texture, unless their primitive powers be changed or destroyed by disease, which is allowed to alter all our textures; and which, it is fair to infer, has most probably done so in all the cases where the natural structure of muscles, bones, ligaments, &c., have been reduced to cellular texture. I cannot, therefore, yield to any apprehensions of injurious structural changes of bone and muscle, from observing the recumbent posture in such cases of spinal curvature as require it, more than would be justified in scrofulous disease of the hip or knee-joints.

"Some adults, who have become thin from spinal curvature, have expected their muscles to be much enlarged by exercises, and have been disappointed: as exercise was found to increase their strength only, and bring their size up to the standard Nature intended, and no further. Their expectations probably arose from this circumstance:—During the growth of the parts of the body, repeated and long-continued exercises of particular muscles give them an extraordinarily large development, as is observable in the arms of sailors and blacksmiths or anchor-smiths, and in the legs of chairmen; but if an adult, after the completion of his growth, adopt the same exercises, the same muscular enlargement does not ensue."

Here are good arguments adduced in favor of a partisan view of the subject; but if the plea is good, it is a special one, and will, we think, fail to convince our readers of the innocence of long continued prostration.

What is contained in the annexed text, will appeal to the right feelings of the profession and the human heart:

"The length of time required for the cure of the varieties of lateral curvature varies with their causes. When it has originated from carrying a child on one side or from bad habitual postures of the body, the incipient disease will be remedied in a few months, and the patient should be particularly cautioned to avoid the remote causes, and to strengthen the system by every means. If it arise from unequal length of the lower extremities, and be incipient, it will be remedied in a few months, provided the patient abstains from walking about. If he continues to employ the erect attitude as usual, without any mechanical apparatus to counteract the disproportion, the time is indefinite, and the curvature will most probably increase.

"If a cuneiform shape of the vertebræ be induced in a rickety habit, and the ribs project backwards, accompanied with a tortuosity of the spine, one year at least will be necessary; and it will be found that the costal distortion will be the last remaining deformity to remove. If the disease be connected with scrofula, the duration and end are uncertain.

"When the curvature is ambilateral and of the shape of the Greek sigma, there is no chance of restoring the vertebral column to its spinal line, without the most rigid and persevering observance of all the mechanical and medical means, and even then, the degree of benefit to be derived is uncertain, and the time of obtaining it indefinite; but a degree of good equivalent to the confinement will be insured, if the means be employed during the growth of the body, an observation that leads me to an important topic of inquiry, how far curvatures are remediable, after the growth of the body has terminated. Of late, spinal curvatures have received some considerable elucidations from the spirit of medical investigation that characterizes this period, and have been made more the subject of

discussion and of conversation. This has induced many adults to apply for opinions on cases of very long duration.

"The view I have taken of the subject is the following:—During the growth of the body, parts of the bony structure that are deficient may be supplied, and those that are redundant and disproportionate may be absorbed, and the equality of size and proportion be restored. After the growth of the body has been completed, and the curvatures are attended with unequal proportions of the thickness of the sides of the vertebræ, and of the length of the ribs and extremities; it is clear that those alterations and additions of structure, necessary to restore symmetry of form, cannot be accomplished, without the creation of a new and successive growth of the diminutive bones or portions of bone; and as the power of such a new creation is an attribute of the Deity, who has ended his work, and does not belong to man, it is impossible to remedy the finished deformity, or materially change it; yet, there are those who impiously promise and audaciously and ignorantly attempt this new creation, and who rob their fellow creatures of their liberty and time, by consigning them to a long and useless confinement, a motionless rest, and the stretching of machinery, in vain, to counteract the ordinations of Providence, that has given all things their bounds, and has said, "thus far can ye go and no farther."

It will, perhaps, be expected that we should refer to Guerin's method of treating lateral curvature by sub-cutaneous division of the dorsal muscles. Although believing with him, that very many cases of curvature are produced by contraction of some of the dorsal muscles, still we cannot overlook the fact, that the bones of the vertebræ are essentially altered in shape; in some cases so much so, that if all the muscles should be removed from the spine, very little in medical straightening could be effected by the application of force. The same power, mechanical or surgical, which would redress the bony structure, would also overcome the muscular contraction.

We ought to bear in mind, that we are treating living particles and not dead matter; that changes take place slowly and in conformity to certain exact laws.

The cause of contraction, if it still exist, will operate against the method of division; for long before the spine can be erected, the muscles will have united.

In torticollis, the vertebræ are not much affected, and the cases are not similar.

In club-foot, the division of the tendo Achillis would effect little should the tendon be allowed to unite firmly before extension should be made.

Experience, however, is the great test. If Guerin's success had been what his statement shows, no doubts as to his veracity would have been urged.

We remember one case of acute simple lateral curvature, produced by inflammation of the dorsal muscles, where we had determined to follow Guerin's method; but, fortunately for the patient, a simple antiphlogistic and sedative treatment cured the patient, and the striking effects of dividing the muscles were lost.

For a full statement of Guerin's method, we take great pleasure in referring to the American edition of Velpeau's Operative Surgery, where a vast amount of information on this and kindred subjects may be obtained.

Angular Projection of the Spine—History and Symptoms.—Mr. Bampfield is not very graphic in his description of this distressing and heart-rending malady. He, however, gives all the symptoms, which are worthy notice, and peculiar to this variety of posterior curvature.

"This species almost always invades the lower portion of the spinal column, and the principal seat of the malady and projection is in the lumbar vertebræ, the spinous process of the 3d and 4th of which generally forms the prominent angular point. I have, however, seen this form in the centre of the dorsal vertebræ. The reason why this distortion assumes the angular, instead of the curved figure, seems to be, because the lumbar vertebræ below are naturally incapable of so much flexion or of being bowed out so much as the upper vertebræ, or they offer an effectual resistance to it, from being so near a fixed point as the sacrum; hence, the vertebræ below the one disordered or deranged nearly retain their spinal line, whilst those above are removed from it."

It seems remarkable to us, that the experienced author should attribute the angularity of this species of curvature to want of flexion in the lumbar vertebræ. If the pathology be considered, and it is well represented in that standard work (Sir B. Brodie on the Joints), it will be seen that there is an absolute loss of substance in the bodies of the vertebræ, and as their loss is not reproduced, the sound vertebræ must fall together and thus produce the peculiar angular projection; this projection occurs very much more suddenly than where there is no loss of substance, as in the other forms of posterior curvature.

"This distortion generally occurs in young persons from three years of age to twelve; but adults are sometimes obnoxious to it. The projection is formed in a very gradual manner; the spinous process of the 3d or 4th lumbar vertebra is first observed to protrude a little, or both may protrude when first noticed; and as this projection increases and enlarges, it bears out from the spinal line, and elevates five or six of the spinous processes of the vertebræ above it, so that when the projection has made considerable progress, the lower spinous process projects beyond the spinal line from half an inch to nearly an inch, while five or six above are gradually inclined outwards from one of the dorsal vertebræ in its natural situation, to the extreme point of angular projection, between which and the lumbar vertebræ, *in situ*, below it, there is a space in which the fore-finger may be pressed.

"The transverse processes of the same vertebræ generally project on each side of the spinous processes, and elevate and stretch the muscles and integuments, so as to produce a bow or arch from side to side, which is supported in the middle by the spinous process. The sternum sometimes projects a little, as in excurvation. In the majority of cases, the muscular powers of the back and of the lower extremities are gradually weakened; but in some cases no loss of power is evident. The patients in general become debilitated and soon fatigued from exercise, so that they cannot walk long without seeking a resting-place to sit or lie down; when the projection is half an inch or more, the patient's body is commonly inclined forwards, the act of walking is imperfectly performed in a waddling gait, or the legs cross, and the patient falls down, or the dorsal muscles suddenly lose their power, and the patient stoops forward and seeks support by placing both hands above the knees. At all times, it is customary for the patients to avail themselves of any accidental support that falls in their route. In some cases, there is considerable pain experienced in the deranged vertebræ, and, in others, but very little or none, unless they are much pressed upon, and sometimes pain is not produced by pressure. The pains are sometimes sudden and severe, and compel the patients to throw themselves into the recumbent posture, wherever they happen to be when they supervene. Quick and sudden motions of the spine sometimes induce smart pains in the affected vertebræ. Pains of the back and of one or both knees, in some cases, disturb and prevent sleep, and compel the little patients to scream aloud. These pains generally occur in the night time, and are connected with, if not caused by, lumbar inflammation and abscess."

After stating that lumbar abscess, independent of caries, is accompanied by slight excurvation, and that the disease is sometimes propagated

from an abscess to the vertebræ, and *vice versâ*, he thus describes the formation of lumbar abscess:

"In the meantime, pus collects between the 2d and 3d, or the 3d and 4th, or the 4th and 5th, lumbar vertebræ, and at length opens through a small orifice of the anterior spinal ligament, either on the anterior or lateral portions of the vertebral joint, and pours forth its matter into the cellular tissue covering the spine, which becomes a lumbar abscess on one side; but in the process the orifice enlarges by ulceration, until the ligaments are destroyed all round the bodies of the two vertebræ, and the pus, issuing on both sides of the vertebræ, forms a lumbar abscess on each side, the matter of which gradually insinuates itself along the psoæ muscles, or the course of the external iliac artery under Poupart's ligament, and points at the top of the thigh, or it takes the direction of the hypogastric vessels and opens at the verge of the anus. The accumulations of matter behind the peritoneum frequently inflame that membrane, and sometimes break through it into the abdominal cavity. Sometimes, scrofulous ulcerations of other joints or parts precede that of the lumbar vertebræ, or are occasionally induced with it, or follow it. The pus discharged is sometimes laudable, is sometimes mixed with scrofulous coagula, and at other times is fetid and dark. With these local affections arise symptoms of hectic fever, debility and emaciation, which finally reduce the patient to skin and bone. The appetite is sometimes preserved in a tolerable degree, even within a few days of dissolution."

Appearances on Dissection.—The description on dissection is minute and faithfully done; the destruction of the vertebræ is discussed.

Sometimes only the intervertebral cartilages are ulcerated, and sometimes the bony structure, leaving the cartilaginous and fibrous parts in a state of comparative soundness.

We cannot condense this section, and it is too long for extraction. We refer our readers to the work itself for this interesting section, as being well worthy their attentive perusal.

Prognosis.

"Every case of this disease that has been placed under my care within six months after its formation has been treated with success, unless caused by lumbar abscess already produced.

"Cases of long duration, in which the previous symptoms of inflammation had existed, and in which emaciation, great debility, much pain of the back and hectic fever have been induced before due surgical attention has been paid, have terminated fatally."

The presence of lumbar abscess is a grave, although not always fatal, symptom.

Causes.

"The remote causes of this species of spinal distortion are contusions of the spine; sprains of the lumbar vertebral joints; muscular debility; pressure of the cyst of lumbar abscess; a rickety growth or malformation of the bony bridge; and more frequently than any other, scrofulous or common inflammation of the intervertebral cartilage, and horizontal surfaces of the vertebral bodies.

"The immediate causes, being the same as of other spinal distortions, must be sought for in a sturctural disproportion between the anterior and posterior portions of the vertebræ or intervertebral cartilages, or in the destruction of the horizontal surfaces of one or more vertebræ, and the intervertebral cartilages situated between them. The connection between the remote and proximate causes, or ultimate effect, has been already traced, in treating of the other forms of spinal distortion, particularly of excurvation—*Chap.* III. *Sect.* II."

"A morbid increase of the bony bridge is not the only way in which angular projection is immediately produced. For the spinous processes most protrude, whenever the thickness of the bodies of one or two vertebræ is so much diminished by absorption, that one vertebra, especially in its long diameter, permanently inclines over its axis or centre, to its anterior half. For, as in their natural situation, most of the spinous processes slope downwards, and are locked together, so must one protrude outwards beyond its spinal line, whenever it is raised by depressing the anterior portion, or opposite end of the oblong bone of which it forms the other extreme part or end, and in proportion to the degree of the elevation of one spinous process, must the spinous processes, and bony bridge above, be raised, and throw the superincumbent weight of the column, &c., on the anterior parts of the bodies of the vertebræ."

These paragraphs, with what has been said of causes in excurvation, sufficiently show the author's views of the subject.

Treatment.—The author's views of treatment accord with our own: after directing leeches or cups to remove local pain, and attention to the digestive apparatus, he says:

"When there is reason to suspect a scrofulous diathesis, from a history of the family, or from scrofulous affections being present in other parts of the body, a preventive plan of alteratives, and other medicines suited to the case, should be adopted; but, above all, the effects of inflammation should be watched, and counteracted by the means already enumerated.

"If a judicious medical and mechanical treatment be resorted to in the early stage of angular projection, it seldom occurs that any great constitutional derangement supervenes; if it does, the remedies already mentioned, as well as those recommended for particular symptoms in excurvation, should be employed. Constipation should in all cases be obviated, and the digestive functions regulated, and preserved in health, by appropriate medicines and regimen. Should there be evident weakness of the dorsal muscles, without marks of inflammation, chalybeates and cold bath, local or general, have produced a decided good effect, used with an occasional laxative of rhubarb.

"Should the endeavors fail to produce resolution of the inflammatory condition of the affected portion of the spine and suppuration, caries and abscess ensue; whilst the counter-irritants are continued, the strength should be supported by tonics, and a generous and nutritive diet, and pain should be allayed, and sleep produced by opium, or other narcotics, so that the constitution may be assisted in arresting the fatal tendency of this state of disease.

"Pressure, extension of the spine, friction with stimulating liniments, &c., when issues are not established, are advantageously employed, as in the other varieties, as well as the use of the apparatus of bandage, compress and shield.

"The bandage should be broad, and so applied that some of its turns reach high up on the ribs, and down on the pelvis, from which the patient experiences much relief and comfort. It need hardly be repeated, that pressure and extension should not be employed during the inflammatory or ulcerative stages of this form of disease, or of any species of curvature, when they produce irritation or pain; nor should they be used when it is supposed that an anchylosis, or deposits of osseous matter are forming.

"After the mechanical and medical means have been attentively employed about three months, if the patient be directed to assume the erect attitude, and the spine be examined, it will generally be perceived that the lumbar portion of the spinal line is inclined forwards; when this effect is produced, and towards the end of the cure generally, lying on the back, and the frequent exercise of the lower limbs in flexion and extension, will prove advantageous, as it will tend to bring the spinal line into the natural axis of the body, and the forcible extension of the flexor muscles of the thigh will draw in the lumbar vertebræ. In the most favorable cases, there remains an apparent projection of about one-fourth of an inch of one or two spinous processes, or of one or two transverse processes, which pro-

trude a little beyond the level of the spinous processes, but this does not alter the natural axis of the body, nor prevent the patient from standing upright, and preserving the erect attitude, and is a mark of some disproportion of growth still remaining."

It is probably known to most of our readers, that the weight of authority, both in Europe and this country, is decidedly against the use of mechanical contrivances in curvatures of the spine, with caries of the vertebræ. The directions above, for stretching the spine, should, therefore, be used with great caution.

A *cured* case of this kind necessarily involves a protuberance, more or less projecting, from the fact that anchylosis is a step necessary in the consummation of separation. The bodies of one or more vertebræ being destroyed and the space not being filled up, the sound bones must approach each other, pushing out the canal and processes of the partly destroyed vertebræ. If, therefore, the spine be stretched before the sound parts come into contact and unite, there never can be a cure, because the necessary step of contact and adhesion will be prevented.

After anchylosis has somewhat advanced, then we believe and know that the figure and health may be greatly improved by the proper use of instruments.

By a simple corset, with an orifice for the protuberance to pass through, the spine may be bent backwards, thus overcoming the curvature and not in the least interfering with the process of anchylosis.

The support thus given, will enable the patient to take more exercise in the open air, and relieve him from the tedium and debilitating effects of constant prostration and inaction. The pain will often be relieved by this support, thus removing a source of irritation.

Another question in dispute is the employment of issues in the vicinity of the carious bones.

Mr. Bampfield decides, with Sir B. Brodie, in their favor; Dr. Mitchell, the editor of this work, against them.

When the object of the issues is fully understood, the practical surgeon will probably sometimes use and sometimes reject them. In a scrofulous habit, issues are eminently beneficial here, as in all other joints. If the disease arises from injury, then perhaps a drain will be of little benefit. If pus has already formed, then again a small external drain will not effect much.

If tuberculous matter be deposited in the bodies of the vertebræ, undoubtedly an issue will delay or prevent its softening, and time will be gained to correct the vitiated habit.

The remaining part of the work, being of a different character, will, with great propriety, form the subject of a separate and future notice.

We heartily recommend this book to all who feel an interest in the matter, and especially in these days of degenerating specialties. There is no mystery in spine-doctoring any more than in properly treating club feet, though the professors of these branches would have us think to the contrary.

With the exception of improved mechanical contrivances, there has been little advance since Mr. Bampfield wrote his truly valuable and truthful essay.

R. S. K.

ART. IX.—*The Sanatory Condition of the Laboring Population of New York, with suggestions for its Improvement; a Discourse (with additions) delivered on the 30th December, 1844, at the Repository of the American Institute.* By JOHN H. GRISCOM, M.D., Fellow of the College of Physicians and Surgeons; Physician of the New York Hospital; late Physician of the City and Eastern Dispensaries. New York: Harper & Brothers. 8vo., pp. 58. 1845.

THE author of this truly able and philanthropic discourse, has made himself widely and most favorably known to the reading and scientific portion of the public, by his luminous report, while filling the office of City Inspector (1842), as well as his communication to the Common Council recommending a re-organization of the Health Police. With the great body of the profession, we were strongly in hopes that our city authorities would so far break the shackles of party discipline as to continue in office one who had displayed such signal capacity and qualifications for the station to which he had been appointed, that he might be able to introduce some, at least, of the reforms and improvements so much needed in our Sanatory Police, and which he was the first to suggest; but in this we were disappointed; and not only so, but doomed to see this responsible office filled by an individual who was confessedly incompetent to the proper discharge of its duties, and who was continued in the same after his incompetency was shown, and in the face of the earnest and respectful remonstrance of the medical faculty of this city.

It appears that the substance of the present discourse was originally addressed, in the form of a letter, to the chief magistrate of the city, with a view to an exposition of the true principles which should regulate the action of public bodies in matters relating to the health of cities. The Mayor, appreciating fully the importance of the facts and reasonings set forth, transmitted the communication to the Common Council, recommending it to their serious attention. After several weeks' deliberation upon it, the committee, it seems, to whom it was referred, arrived at the following conclusion, as embodied in their report:—"Your committee do not profess to be judges of the subject, or, in other words, they do not think it proper, at this time, to go into such a measure!" and they recommended the paper to be returned to its author. This report, by the way, reminds us of a certificate lately sent in to the City Inspector by one of the enlightened body whom the Legislature allows to practise the healing (?) art among our citizens, and which has been handed us by the assistant in that office:—"This woman was died, because she did die, and she was die of *vickness*, and she could not live."—Signed, Dr. ———. Under these repeated discouragements, Dr. G. now comes before the public to advocate a plan of *Sanatory Reform*—a plan designed to relieve the city of a part of the heavy burdens of sickness and mortality, which now oppress its population, more especially that portion least able to relieve themselves and most requiring the interposition and protection of the law. It is a measure, we are satisfied, of humanity and justice to the poor, of safety to the whole people, and of economy to the public treasury.

"No duty," says Dr. G., "can engage the attention of the magistracy of a city or state, more dignified in itself, more beneficial to the present generation, or more likely to prove useful to their descendants, than that of procuring and maintaining a sound state of the public health.

"Of the three objects contemplated in the Declaration of Independence as necessary to be secured by government, the first named is 'Life.' Higher purposes cannot be conceived for which governments should be instituted.

"As upon the condition of health of an individual are based his physical and mental strength, his ability for self-maintenance, his personal happiness, and that of others dependent on him, and also his usefulness to his family, to the community and his country; and as the community depends for its prosperity upon the performances of its members, individually and collectively, in the measure of influence committed to them respectively, so does the health of the people affect the capacity and interests of the state.

"As upon the individual, when sick, falls an increased pecuniary burden, with (in general) a suspension of income, upon the state or city must rest, not only the expenses of removing an unsound condition of public health, but also, from the attendant loss of character, a diminution of its resources.

"When individuals of the pauper class are ill, their entire support, and perchance that of the whole family, falls upon the community. From a low state of general health, whether in an individual or in numbers, proceed diminished energy of body and of mind, and a vitiated moral perception, the frequent precursor of habits and deeds, which give employment to the officers of police, and the ministers of justice.

"These, among other considerations, together with the recent expression by the chief magistrate of the city of his interest in the sanatory condition of his constituency, by the recommendation to the Common Council of a measure of no ordinary importance to their welfare and comfort,* induce me to urge attention to a measure of improvement which has long impressed my mind, as one, above all others, demanding the action of the City Government."

Dr. Griscom states that it is his object, in the present discourse, to show, 1st, that there is an immense amount of sickness, physical disability, and premature mortality, among the poorer classes; 2d, that these are, to a large extent, unnecessary, being, in a great degree, the results of causes that are removeable; 3d, that these physical evils are productive of moral evils of great magnitude and number, and which, if considered only in a pecuniary point of view, should arouse the government and individuals to a consideration of the best means for their relief and prevention; and, 4th, to suggest the means of alleviating these evils and preventing their recurrence to so great an extent.

After pointing out the difference between *public* and *private* health, depending chiefly on the cause being *personal or general*, Dr. G. proceeds to speak of the *system of tenantage* to which large numbers of the poor are subject, as one of the principal causes of the helpless and noisome manner in which they live.

"The basis of these evils," he observes, "is the subjection of the tenantry, to the merciless inflictions and extortions of the *sub-landlord*. A house, or a row, or court of houses, is hired by some person of the owner, on a lease of several years, for a sum which will yield a fair interest on the cost. The *owner* is thus relieved of the great trouble incident to the changes of tenants, and the collection of rents. His income is sure from one individual, and obtained without annoyance or oppression on his part. It then becomes the object of the lessee, to make and save as much as possible, with his adventure, sufficient sometimes to enable him to purchase the property in a short time.

"The tenements, in order to admit a greater number of families, are divided into small apartments, as numerous as decency will admit. Regard to comfort, convenience, and health, is the last motive; indeed, the great ignorance of this

* Public Baths.

class of speculators (who are frequently foreigners and keep a grog shop on the premises) would prevent a proper observance of these, had they the desire. These closets, for they deserve no other name, are then rented to the poor, from week to week, or month to month, the rent being almost invariably required in advance, at least for the first few terms. The families moving in first, after the house is built, find it clean, but the lessee has no supervision over their habits, and however filthy the tenement may become, he cares not, so that he receives his rent. He and his family are often found steeped as low in depravity and discomforts as any of his tenants, being above them only in the possession of money, and doubtless often beneath them in moral worth and sensibility.

"It is very frequently the case that families, after occupying rooms a few weeks, will change their location, leaving behind them all the dirt which their residence has occasioned. Upon this the next comer will sit down, being so much occupied with the hurry of moving, and with the necessity of placing their furniture immediately in order, that attention to cleansing the apartment is out of the question, until they are 'settled,' and then, if done at all, it is in the most careless and inefficient manner. Very often, perhaps in a majority of cases in the class of which I now speak, no cleaning other than washing the floor is ever attempted, and that but seldom. Whitewashing, cleaning of the furniture, of bedding, or persons, in many cases is *never* attempted. Some have old pieces of carpet, which are never shaken (they would not bear it), and are used to hide the filth on the floor. Every corner of the room, of the cupboards, and the entries and stairways, is piled up with dirt. The walls and ceilings, with the plaster broken off in many places, exposing the lath and beams, and leaving openings for the escape from within of the effluvia of vermin, dead and alive, are smeared with the blood of unmentionable insects, and dirt of all indescribable colors. The low rooms are diminished in their areas by the necessary encroachments of the roof, or the stairs leading to the rooms above; and behind and under them is a hole, into which the light of day never enters, and where a small bed is often pushed in, upon which the luckless and degraded tenants pass their nights, weary and comfortless.

"In these places, the filth is allowed to accumulate to an extent almost incredible. Hiring their rooms for a short period only, it is very common to find the poor tenants moving from place to place, every few weeks. By this practice they avoid the trouble of cleansing their rooms, as they can leave behind them the dirt which they have made. The same room being occupied in rapid succession by tenant after tenant, it will easily be seen how the walls and windows will become broken, the doors and floors become injured, the chimneys filled with soot, the whole premises populated thickly with vermin, the stairways, the common passage of several families, the receptacle for all things noxious, and whatever of self-respect the family might have had, be crushed under the pressure of the degrading circumstances by which they are surrounded."

The next subject alluded to by Dr. G. is *ventilation*, which is generally entirely prevented by the manner in which rooms are planned; they having one or two windows and a door at one side of the room, but no opening anywhere else, so that a draught of air *through* is an utter impossibility. A four years' service, in the capacity of out-door dispensary physician, enables us to bear positive testimony to the fidelity of Dr. G.'s sketches. What more life-like and vivid than the following pictures?

"The confined position of the dwelling itself, generally, prevents the access of the external currents of air, even to the outside, to any considerable extent. The window sashes, in addition, perhaps are so arranged, that the upper one (if there are two) cannot be let down, being permanently fastened up; hence the external air, poor as it is, cannot visit the upper section of the room, unless by opening the door, by which the interior of the room is exposed to view. If there is a sleeping apartment, it is placed at the extremity of the room farthest from the windows, is generally but little larger than sufficient to hold a bedstead, and its

area is reduced, for air, by the bed furniture, trunks, boxes, &c., and having no windows, fresh air and sun-light are entire strangers to its walls. In this dark hole there is, of course, a concentrated accumulation of the effluvia of the bodies and breaths of the persons sleeping in it (frequently the whole family, several in number), and this accumulation goes on from night to night, without relief, until it can easily be believed the smell becomes intolerable, and its atmosphere productive of the most offensive and malignant diseases. There is no exaggeration in this description. I cannot too highly color the picture, if I would. What, then, will be thought of the condition of thousands of our fellow-citizens in the *winter season*, when every crevice is closed to keep out the cold air, and when I state that what I have described, I have repeatedly seen and felt in the *summer*, when the windows and doors are opened to the fullest extent, day and night, admitting all the ventilation possible, small as it is.

"I have had recent occasions to visit several of these pestiferous places, and I pen these paragraphs in the month of August, with their sight and smell fresh upon my senses.

"The almost entire absence of household conveniences contributes much to the prostration of comfort and self-respect of these wretched people. The deficiency of water, and the want of a convenient place for washing, with no other place for drying clothes than the common sitting and bed rooms, are very serious impediments in the way of their improvement. Without any convenient or safe place to deposit wood, or coal, or food in large quantities, all their purchases are by 'the small,' from the neighboring grocer (who is perhaps the landlord), at prices from 10 to 50 per cent. above the rates at which they might be obtained, under better circumstances.

"But the most offensive of all places for residence are the *cellars*. It is almost impossible, when contemplating the circumstances and condition of the poor beings who inhabit these holes, to maintain the proper degree of calmness requisite for a thorough inspection, and the exercise of a sound judgment, respecting them. You must descend to them; you must feel the blast of foul air as it meets your face on opening the door; you must grope in the dark, or hesitate until your eye becomes accustomed to the gloomy place, to enable you to find your way through the entry, over a broken floor, the boards of which are protected from your tread by a half inch of hard dirt; you must inhale the suffocating vapor of the sitting and sleeping rooms; and in the dark, damp recess, endeavor to find the inmates by the sound of their voices, or chance to see their figures moving between you and the flickering blaze of a shaving burning on the hearth, or the misty light of a window coated with dirt and festooned with cobwebs—or if in search of an invalid, take care that you do not fall full length upon the bed with her, by stumbling against the bundle of rags and straw, dignified by that name, lying on the floor, under the window, if window there is;—all this, and much more, beyond the reach of my pen, must be felt and seen, ere you can appreciate in its full force the mournful and disgusting condition, in which many thousands of the subjects of our government pass their lives."

> "There vapors, with malignant breath
> Rise thick, and scatter midnight death."

As to the importance of ventilation, both in the way of the prevention and cure of diseases, scarcely too much can be said, and we believe that the attention of physicians has been hitherto too little directed to this subject. We think it may be easily shown that a vitiated atmosphere is a more powerful cause of pulmonary consumption and scrofula than bad food, hereditary predisposition, or any other single cause that can be named. On this head, Dr. G. remarks:

"Dr. Reid, the ventilator of the new houses of parliament, places the quantity of air necessary for the perfect, free, and wholesome respiration of each adult

person at ten cubit feet per minute.* Others before him have estimated it as low as two cubic feet. I coincide with Dr. Reid in his statement of the amount necessary for the attainment and preservation of *perfect health*; but the latter estimate is entirely too low. If we take the average of these two extremes (six feet), we shall find that the ten persons in the cellar of 50 Pike-street would render its 700 feet of air unfit for the support of health, *in less than fifteen minutes*. Now, suppose them to retire and close the door and window at ten o'clock at night, what must be the condition of the air of the room when they rise at five the next morning?

"Is it astonishing that the Dispensary is called upon, very frequently, to extend its aid to these inmates? and should there not be some remedy for this dreadful state of things? The whole of these premises, besides the cellar, is in a condition unfit for human habitation, and yet crowded to a melancholy degree. A sanatory law that would reach this case, and be well applied, would save a large amount of life, health, money, and morals. The same may be said of hundreds of other places, of which this is a fair average sample. There are many places still worse.

"An inquiry into the amount of air allowed to children in schools, to the inmates of prisons, and to the laborers in work-shops, will exhibit a degree of neglect, or ignorance, in relation to this vitally important subject, in individuals having the training and guardianship of these classes, truly lamentable, as well as surprising. For examples.

"One of the Public Infant Schools of this city, having an average attendance the year round, of 200 children, was for a long time, and until recently, kept in the basement of a church, the dimensions of which were $46 + 30 + 8\frac{1}{2}$ feet, equal to 11,730 cubic feet. The proximity of the adjoining buildings rendered it so dark in a sunny day, it was difficult to see to write on a slate a short distance from the windows. A large stove warmed the room in winter. These children had about sixty cubic feet each, for the six school hours, equal to ten cubic feet per hour, when each child should have ten cubic feet per minute. *Ventilation was unthought of*, until recently, and now in consequence of the position and arrangement of the building, it is very imperfect.

"The dormitories of the House of Refuge have each an area of less than 200 cubic feet. When the door is closed on the inmate, his bed, which is about eighteen inches from the floor, is extended nearly across the cell, diminishing by so much its atmospheric area, and intercepting almost wholly the communication between a very small opening at the bottom, and another at the top, and one in the middle, of the door. Those openings were intended, but are wholly inadequate, for ventilation, even if no bed were there. For the perfect decarbonization of the blood, the air in each dormitory, at the lowest proper estimate, will remain sufficiently pure for the space of thirty minutes only, yet the youthful inmates are locked in from 8 P. M. till 5 A. M. *nine hours, with no other ventilation than what I have described.* Their work-shops cannot be said to be much better supplied with air. The effects of this privation are plainly marked upon the countenances, and general physical development, of the children.

"The general arrangement of the cells in the City Prison is but little, if any better. Besides the small window near the ceiling on one side, air is admitted

---

* "If we look to the fact that less than half a cubic foot of air passes through the lungs of an adult in a minute, this estimate may at first appear excessive, but if we remember, that at each expiration, a quantity of air is emitted, which mingles with an additional portion of air largely exceeding its own bulk, and that there are twenty such expirations in a minute, while provision is likewise required for the air that affects the surface of the body, and for the endless variety of minor effects produced by furniture, lighting, eating, refreshments, &c.; where no peculiar adaptation for these purposes has been introduced beyond those usually observed, it will be seen that the estimate is by no means immoderate. *The real question is not, what the constitution can bear, but* that amount which is conveniently accessible in ordinary habitations, *and which is essential for the wants of the system.*"—ILLUSTRATIONS OF THE THEORY AND PRACTICE OF VENTILATION, BY DAVID BOSWELL REID, M. D.

only through *five auger holes in the door* on the opposite side, and these latter are of no service at night, when the inner door is closed."

Dr. G. next proceeds to show the effects of this degraded and filthy manner of life upon the health of individuals and the duration of their lives, as well as its influence upon their morals, self-respect, and appreciation of virtue. It seems that, for the year ending March, 1844, there were prescribed for at the offices and the homes of the poor, at the

Northern Dispensary,	13,317	patients.
Eastern "	17,107	"
New York "	23,858	"
Total,	54,282	

of which deduct those vaccinated, 4,505, and there still remain about 50,000, who annually receive aid from these charities. But then, during the same year, there were admitted into the Alms-House Hospital, 2,332 patients, and into the City Hospital about 1000, exclusive of seamen, which makes a grand total of over 53,000, without enumerating the sick poor, attended by private charity. This shows an immense amount of sickness among the poorer classes of this city, and shows it to be the imperative duty of the magistrate and philanthropist to institute an inquiry into its causes, with the view of preventing and alleviating it. The annual reports of the City Inspector show that nearly one half of the deaths by consumption are of the foreign portion of the population, and that more than *one-third* the whole number of deaths are of foreigners; and this fact is explained by the circumstance that a large majority of the cellar and court population of this city consists of persons of foreign birth and their children; about 60 per cent. of Dispensary patients are natives of other countries, and reckoning their children, over 75 per cent. Putting these facts then together, we believe Dr. G. is justified in the conclusion, that the domiciliary condition of these poor beings, the confined spaces in which they dwell, the unwholesome air they breathe, and their filth and degradation, are prolific sources of an immense amount of distress and sickness, which, in their turn, serve, by the loss of time, of wages, and of strength, to aggravate the miserableness of their condition, to increase the danger to the public health, and the burden of public and private charity.

"The evils," says Dr. G., "thus resulting are occasionally exhibited in an endemic form, i. e., some disease of a marked character will break out and attack a considerable number of persons in the same neighborhood, the extent of its prevalence depending upon the extent of the cause, or the facilities for its propagation. Thus a fever may commence in a certain place inhabited mostly by the destitute and filthy:—if the adjoining tenements are occupied by the same class of persons, and kept in the same dirty and ill-ventilated condition, the tenants of the latter will be very liable to attacks of the same disorder. The disease will often be observed to pass by houses in a better condition, and re-appear at a distance, where similar causes prevail.

"Frequently, too, the prevailing disorder, though perhaps covering a large district, will be seen only in certain parts of houses, as the cellars. Several instances of this have occurred in New York, one of which was the memorable Banker (now Madison) Street fever of 1820. 562 blacks inhabited the infected district, of whom 119 lived in cellars; of these 119, 54 were sick of the prevailing fever, and 24 died. Of the remaining 443, who lived above ground, 101 were

sick, and 46 died. Out of 48 blacks in 10 cellars, 33 were sick, of whom 14 died, while out of 120 whites, living immediately over their heads, in the same houses, not one even had the fever. Numerous other instances have occurred, which have attracted less attention, probably because of their frequency rendering them less notorious. But there is, as is well known to the physicians who move among these haunts of wretchedness, a silent agency continually at work, destroying annually the health and lives of hundreds of our fellow-citizens, and entirely within the power of the city government to control or subdue, but which, by a strange neglect, appears to have been hitherto allowed to work out destruction unopposed."

Next follow letters from Drs. Swett, Wood, McCready, and others, showing the influence of locality, filth, want of ventilation, &c., in producing endemic fevers and other diseases. For example, Dr. Swett describes an epidemic that prevailed in the autumn of 1837, in a district bounded on the north and south by Walker and Chatham streets, and extending east and west from Allen to Mott streets. The number of cases of fever were about thirty, and Dr. S. states that they all occurred either in basements, or the first floor of houses that had neither basements nor cellars under them.

The influence of locality, &c., might be very forcibly illustrated by tracing the ravages of the malignant cholera in this city in the years 1832 and '34. This disease, as is well known, selected for its victims chiefly those who resided in low, damp situations, as unventilated cellars and basements; in this respect resembling the Banker street and other endemic fevers that have occasionally prevailed in some districts of the city. One two-story wooden building, we recollect, standing in the rear of a lot in Christopher street, near the river, was tenanted from garret to cellar (the entrance to which latter was by a trap-door, without a single window for the admission of air or light, and in which a family of six resided), by a population of sixty persons, old and young. The cholera broke out among them, and within five days sixteen dead bodies were removed from that house, while at least ten others were attacked, who were removed to the hospital, several of whom died there. At last, by orders from the Board of Health, the premises were forcibly evacuated, and such was the resistance of the infatuated tenants, that it could only be done by force; the furniture, if the miserable stools, rags and litter could be called such, was all piled up in the street and burned, amidst the howlings and lamentations of the owners; the premises were then washed and scrubbed, and the tenants dispersed. We mention this as one of numerous instances that crowd upon our recollection, where filth, want of ventilation, and too crowded dwellings, have given extraordinary malignancy to epidemic causes, when prevalent.

Dr. G. offers some very judicious remarks on food, which are well worthy of consideration:

"Among the diseases most frequently resulting from an imperfection in the means of life, is *scrofula*, in its Protean forms. Dr. Watson, of London, the latest authority in the Practice of Medicine, in speaking of the general causes of this disease, enumerates the most prominent. 'Insufficient nutriment, exposure to wet and cold, impurity of atmosphere, want of natural exercise, and mental disquietude. To estimate the separate effects of each of these causes may be difficult, but their combined influence is unquestionable.' After a considerable experience in Dispensary and Hospital practice, I hesitate not to declare, and believe I shall be supported in the opinion by my colleagues in the institutions

with which I have been and am now connected, that *this disease is a great scourge of the pauper population.* It exhibits itself in the skin, in the eyes, the viscera of the abdomen and of the chest, in the muscles, and in the bones; in fact, every organ of the body, which is dependent for its healthy condition upon a sound state of the blood (and there is no exception), may and does give evidence, differing in each case, of the influence of this degeneration, and the great prevalence of its producing causes.

"The question will very naturally arise in the reader's mind, whether much of the ills to which the poor are heir, is not produced by the necessarily restricted quantity, and impure quality, of their food. To this I reply, that food, in the varied imperfections of quality and amount, unquestionably constitutes one of the most frequent and powerful of the causes of human diseases generally. It is under some of the circumstances of animal organization, no less important to the maintenance of life and sound health, than air, with, however, this great and essential difference, viz. that an individual may exist several days without any additional food, but not three minutes without air. Further, if he is deprived of but one of the ingredients of the atmosphere, oxygen, instant death is the consequence.

"I believe, however, it will be found, in a vast majority of cases, where food is properly accounted a cause of illness, this is produced by *too great a quantity being eaten,* or by an alteration of its properties by the refinements of cookery, and the addition of stimulating condiments. Plethora, and its long train of ills, are the results of over feeding, and over stimulation, but these are not the diseases of the poor. Among them we rather find, Cachexia,* Scrofula, and all the consequences of debility and vitiation, which are far more attributable to an imperfection and paucity in the necessaries of life, more especially of air, clothing, and cleanliness. Dyspepsia, almost wholly the effect of improper dieting, is scarcely ever found in Dispensary practice, while no disease is more common with the wealthier classes. All the ills for which the poor seek advice, whether peculiar to them or not, are aggravated, and altered in character, not by the food they eat, so much as by the air they breathe, and their other depraved physical circumstances of life. The sin of intemperance in eating cannot be laid at the doors of the cellars, and the entrances of the alleys and courts; while that of intemperance in drinking, though a dreadful addition to the horrors of his already too degraded physical and moral condition, is, with the ignorant and poverty-stricken troglodyte, a venial fault, in comparison with the pampered luxuriousness and equally injurious and intemperate, though more refined indulgences of his wealthier and more responsible neighbor."

"Atmospheric air is to the animal system, a powerful stimulant as well as nutrient substance. In sufficient purity and copiousness, it imparts a sustaining and vivifying power unequalled by any other substance. Its vitalizing operations present one instance of the wonderful adaptations of natural things to each other, but it is singularly striking, because of the immediate and incessant dependence of animals upon it, for life and strength. Air, when pure, gives a freshness and vigor, a tone to the nervous and muscular parts of the system, productive of the *highest degree* of mental and physical enjoyment. Without the tone thus imparted, the functions of the system become relaxed, and in addition, the animal spirits and feelings become depressed and uneasy. To relieve this condition, nature instinctively seeks some stimulating means. Many feed on mental excitement—the stimulus of business with some, with others of society, with some of hope and expectation, keep alive the energies. But the farmer feeds his nervous and general strength on fresh air and wholesome labor. Artificial stimulus is not required by him, he does not feel its want, and has comparatively little relish for it. But the dwellers in cellars, courts, and ill-ventilated garrets, depressed and prostrated by the want of stimulus given by nature, unable to enjoy the feelings guaranteed by an unfailing abundance of oxygen, *instinctively*

* A bad habit of body, known by a depraved or vitiated state of the solids and fluids.

feel the want of a substitute; *they find it in alcohol.* The allurements held out by those dens of destruction, abounding on all sides, add temptation to instinct, and the child of ignorance and misfortune terminates his senses, and often his life, the victim of licentiousness and unnatural debauchery.

"First take the drunkard from the cellar, give him the stimulus of a pure atmosphere, relieve the demands of nature in this particular, and the work of reformation is half done, and will then go on with increased vigor; but as long as he is deprived of the sustaining power offered by nature, his artificial appetite will be less easily appeased.

"The community is guilty of the double offence of cutting off from the destitute part of its members a proper supply of air, in other words, of exciting an appetite for a vile and destructive substitute, and then of presenting to them at almost every corner, opportunities for indulgence in the poison."

Our space does not allow of further extract from this able discourse. We hope, however, it will be extensively circulated and read. It is the best tract to place in every family in this city that we have ever met with, and as such we earnestly commend it to the managers of the Tract Society. Every one acquainted with the actual sufferings and deprivations of the lower classes, knows full well that physical distress opposes a most effectual bar against their moral and religious instruction, and that the moral and religious sensibilities are not only blunted, but well nigh destroyed, by such influences. Their morals cannot be improved without first improving their physical condition.

We have been surprised to witness the apathy which exists in the public mind in relation to the many physical causes of disease in our large cities, that might, with suitable precautions, be readily obviated, but are now allowed to exist without "let or hindrance." Look at our abominably filthy streets; our population of 33,668 living in alleys, courts and cellars; our houses tenanted by an unlimited number of occupants; slaughter-houses, soap, and lard-oil (from putrid meat) factories, &c., in the densely populated parts of the city; our prisons, school-houses, churches, court-rooms, and private houses, without any adequate means of ventilation; look at our Croton water, designed as a blessing, but in danger of proving a curse, saturating our entire sub-soil, penetrating into vaults, cellars and basements; our cisterns changed into cess-pools, into which all kinds of refuse matter is thrown, there to fester, and ferment, and generate poisonous effluvia, in the immediate precincts of our bed-chambers and sitting-rooms; see our grave-yards, vaults, and other burying-places, sending forth their pestiferous miasmata, and then wonder, if you can, why we have a weekly average of nearly two hundred deaths announced in the bills of mortality. While other governments are instituting inquiries into the state of large towns and populous districts, appointing commissions to investigate the causes of disease among the inhabitants, the best means of promoting and securing the public health, and improving the condition of the lower classes, in order to establish a complete system of public hygiene,—our municipal bodies are doing nothing.* We

* It would be a curious item of statistics to know how many private suits have been brought by our citizens, during the last ten years, against the proprietors of slaughter-houses, sulphur and soap factories, lard-oil establishments, &c., for nuisance, with no other effect than that of incurring bills of cost, which the plaintiffs have had to pay. We have been exceedingly amused, at some of these trials, at the ingenuity manifested on the part of the defence. For example, the law makes a distinction between a *public* and a *private* nuisance. Now, a *public* nuisance must be one which

have the results of the labors of one of these royal commissions, embodied in a ponderous folio of 682 pages, chiefly filled with the testimony of distinguished physicians (and who so well qualified to testify as they?), all going to prove, that defective drainage, neglect of house and street cleansing, ventilation, and imperfect supplies of water, contribute to produce atmospheric impurities, which affect the general health and physical condition of the population; generating acute, chronic, and ultimately organic disease, especially scrofulous affections and consumption, in addition to fevers, cholera infantum, and other forms of disease. The health of this city is now endangered by the want of a general system of sewerage, by which, not only the surplus water from the hydrants, cisterns, unused wells, &c., which now finds its way into basements and cellars, rendering them damp and unhealthy, may be conveyed off, but also the immense mass of filth that is daily generated, may be effectually removed. We agree, therefore, with Dr. G., that if we can but discharge all the contents of our sinks and cess-pools, through sewers, into the rivers, we shall avoid two of the most powerful causes of sickness and early death.

ART. X.—*Vital Chemistry; Lectures on Animal Heat.* By THOMAS SPENCER, M.D., Professor of the Institutes and Practice of Medicine in the Medical Institution of Geneva College. Published by Request of the Class. 12mo. pp. 114. Geneva, 1845.

WE had designed to give a somewhat extended notice of these Lectures, which, it appears, have constituted a part of the author's annual course on the Institutes of Medicine, in Geneva College, for several years past: but our space will not permit. Indeed they are condensed to that degree, as hardly to admit analysis, excepting by giving the whole as they stand, and, therefore, we prefer to advise the reader to purchase the work, and thus save us the labor of attempting a condensation in our pages. As to the invidious task of criticism we leave that also to the reader, or to other journalists if they can find ought to criticise, which is, perhaps, not improbable, considering the ground which the Professor's hypotheses cover; we think, however, that all must admit, that the author has sustained his theories with great ingenuity and talent, and that if the results arrived at are untenable, they are apparently sustained and fortified by ascertained facts, admitted by the highest authority. Beginning with an attempt to explain the vapor of the pulmonary excretion, Dr. S. appears to have been led by successive steps, to a belief, not only in the chemical relations of respiration and calorification, but of all the functions and phenomena of organic life; so that, after several years' reflection and study, he claims to have determined a *circle of vital affinities*, uniting all the

---

affects the public generally; but the stench of a slaughter house, for example, does not extend in any one direction, except in certain states of the wind, more than fifty rods; ergo, it is a *private*, not a *public* nuisance. We have seen this defence successfully set up in such cases in more than one instance.

structures and functions of the organism, and making each set of capillaries mutually dependent on and balanced by others, in the chemico-vital changes produced upon their passing currents of blood. If it should be deemed presumptuous, in the present state of animal chemistry, to attempt to demonstrate the several links in this physiological chain, it must, at the same time, be conceded, that unless the attempt be made, the task never will be accomplished; and that even errors and failures in the attempt, will not be without their use, in aiding subsequent investigators in arriving at more satisfactory results. The chief difficulty that strikes us in admitting the author's hypotheses, is the presumption that carbonic acid is educed in the system; whereas, we have reason to believe that every process in the human body is one of oxydation or combustion. But without further comment, we add a brief summary of the author's doctrines, as laid down at the end of his lectures.

"*General Summary of the first two Lectures.*—The following *summary* may be presented upon the reciprocal chemical changes of the blood in the capillaries of the lungs and system, and the *connection* of respiration with calorification:

"1. The lungs perform an excretal office on which life constantly depends, because directly and indirectly aiding calorification.

"2. The substance thrown off is Hydrate of Carbon.

"3. The Carbon, on coming in contact with atmospheric Oxygen, combines with it, forming Carbonic acid gas, which is thrown off from the lungs and skin by expiration and perspiration.

"4. The amount of latent heat of the Oxygen gas employed, is much greater than that of the Carbonic acid gas formed in the lungs, and hence, caloric is set free, imparting heat to the blood and surface.

"5. This free heat also combines with the water of the Hydrate of Carbon, and converts it into vapor.

"6. The lungs and cutaneous surface aid in regulating animal temperature by the conversion of water into vapor, thus conveying off any excess of free caloric in the system by combining with it in the form of latent heat.

"7. The water of the Hydrate of Carbon is converted into vapor in the lungs and upon the surface, precisely as when wood is burned, and hence assumes the form of insensible respiratory and perspiratory transpiration.

"8. Facts appear to show that the chemical change in both venous and arterial blood may occur, independent of the vital principle, by applying to the venous, Oxygen gas, and to the arterial, Carbonic acid gas.

"9. The systemic red capillaries are the antagonists of the pulmonary, and are constantly decomposing Carbonic acid, and, with water, forming Hydrate of Carbon; or, in other words, carbonizing the blood.

"10. From this union, water and Carbonic acid are transformed into a solid substance, and, hence, latent becomes free heat, at every point where red blood circulates.

"11. The function of the systemic red capillaries of the body in *decomposing*, and that of the small vessels of the lungs and skin in *recomposing* Carbonic acid gas, reciprocally depend upon and *balance* each other; in other words, one set *carbonizes*, the other *decarbonizes* the blood.

"12. In consequence of this indissoluble link which connects the functions of respiration and calorification, the degree of temperature, the Carbonic acid evolved, and the size of the lungs as compared with the bodies of animals, always bear a direct ratio to each other.

"13. There is a beautiful analogy between animals and vegetables, in the decomposition of Carbonic acid by the minute vessels of each.

"14. This explanation shows that the great end and function of respiration is, both *directly* and *indirectly*, to aid in the all-important office of the generation and diffusion of animal heat.

"15. The undetermined questions left in closing our last Lecture (§ 21. 3, 4,)

have been settled by proving, *first*, that the coloring pigment of venous blood is not elemental Carbon, but *second*, is a compound of Carbon and water."

"The lungs are not only employed in the functions of *excretion* and *calorification* in expelling and oxidizing the Carbon of the Hydrate of Carbon, but are the last of the organs of *hæmatosis*, viz. :

"1. In decarbonizing the chylous and other constituents of blood, thus fitting them for nutrition.

"2. This decarbonization of the elements originally entering the animal as food furnishes the Carbon of Carbonic acid, and the Hydrate of Carbon employed in the function of calorification.

"3. That the Oxides of Iron are the first instruments for oxidizing and deoxidizing Carbon as the important agent in calorification, while atmospheric Oxygen is the last agent.

"4. The protoxide of iron is the carrier of the carbonic acid from the lungs to the systemic capillaries.

"5. The affinities of the iron in its circle for calorification show, that if either Oxide exists as a constituent of blood, the other Oxide must necessarily be formed;—the *pulmonic* and *systemic* capillaries antagonizing and balancing each other, in *oxidizing* and *deoxidizing* these compounds."

"We have traced all the connecting links of vital chemistry in the changes of the Carbon and iron from the lungs, through each set of capillaries back to the stomach; thus completing the circle of affinities, which these important agents perform in heating the furnace of the living locomotive.

"The answers to the unsettled questions at the head of the chapter, as to the source of the iron and its oxides in blood, may be briefly summed up—

"1. The iron is originally derived from vegetables, in the form of oxide of iron.

"2. This oxide of iron is converted into perchloride of iron by the muriatic acid of the gastric juice, and thus rendered soluble.

"3. The perchloride of iron is reconverted in the lungs into the hydrated peroxide of iron by the free soda of the blood.

"4. The hydrated peroxide is converted into the protoxide in the lungs, by oxydizing the Carbon of the nutritious fluids.

"5. The protoxide carries Carbonic acid thus formed to the systemic capillaries for calorification, and is there reconverted into hydrated peroxide.

"6. In the series of chemical compositions and decompositions of iron and Carbon, as explained, an exact balance is preserved in the amount of each at all points of the organism where employed for calorification.

"7. The oxides of iron are, *probably*, employed in *oxidizing* and *deoxidizing* various other compounds than those already considered, as

"8. In deoxidizing sugar, &c., to form animal fat, and in oxidizing the Carbon of the fat for calorification."

"Having traced one portion of soda formed by the stomach, by a direct channel, through the vessels of the liver into the blood, let us follow the track of the other portion, which enters as an important element of bile, in its chemico-vital uses. In the hepatic secretion, soda forms one of the leading elements, and as soon as bile enters the duodenum, it begins to part with its soda, which combines with albumen, forming a soluble compound in the serum of chyle and blood. The proportion, which this compound of soda and albumen bears to the other ingredients of chyle, goes on increasing in traversing the intestinal canal and lacteal apparatus, until it enters the left subclavian vein; and the soda must hence attract the albumen from the other elements of the chyme.

"It is an admitted physiological fact, that the soda remains the solvent of the albumen, not only in chyle, but in the mass of blood, until the albumen is needed for nutrition, secretion, or other vital uses in the systemic capillaries.

"*Of Muriatic acid as a carrier of nutritive elements.*—Having traced the soda used in bile, through the digestive apparatus, as a solvent and carrier of albumen into the blood, to fit it for nutrition in the systemic capillaries, let us go back

to the stomach and follow the free muriatic acid of the gastric juice in its ultimate uses, as another carrier of nutritive elements. Besides the iron and albumen, as important elements of vegetable and animal food, as already noticed, the leading ones are fibrin and casein, which are first formed by vegetables, and then transferred by the chemico-vital action of animals, and appropriated to building up their structure. The more essential elements, hence, of animals and vegetables are those named. It is obvious that all and every atom of nutriment, whether in form of iron, albumen, casein, fibrin, or other nutritive element, must be subjected to, and combined with, the gastric solvent to form the chyme, and disposed of in the manner explained in the function of hæmatosis. Physiology has furnished no evidence that the process of chylification has, at any point of its progress, separated the fibrin, casein, and other nutritive elements from their primary solvent in the stomach; and we may from this conclude, that when they reach the mass of blood in the left subclavian vein, they continue soluble from their union with muriatic acid. The fibrin or casein so held in solution by muriatic acid, would go the round of the circulation to the systemic capillaries, to which point we have just followed and left its fellow carrier, Soda, still joined to albumen.

"*Nutrition, by re-formation of salt and water dropping albumen and fibrin.*—As the usual affinities or inorganic nature, between the elements of salt and water, had been broken up by the vital chemistry of the stomach when the soda and muriatic acid started as carriers, it is obvious, if the elements of salt and water, which had been separated at the stomach, resume in the systemic capillaries their usual affinities, the soda and muriatic acid, by a double decomposition, would reunite to form salt and water, and drop their albumen and fibrin, as molecular solids. This would, obviously, carry and drop the atoms of these essential elements of the animal structure at all points of the organism, to contribute to its growth, and to supply its waste. Now albumen being the animal element of the nervous system, and fibrin of the muscular; and these two systems being always intermingled in the intimate structures, and combined in the same functions, especially in those of motion, these two essential elements of their growth would be deposited side by side in the nervous and fibrous filaments. The salt and water thus formed, would proceed directly onward in the general mass of blood, carrying with them the refuse atoms displaced by the new, to be discharged by the kidneys and other excretory outlets. It will be perceived that the muriatic acid and soda are, upon this physiological view, mere carriers of the nutritious particles from the stomach to the solids of the tissues; and that as soon as they have done this, they resume the affinities of inorganic chemistry, form salt and water, and become again carriers of the waste molecules out of the body. This deposition of nutritive elements must be at those points where the systemic capillary arteries terminate in the correspondent veins; the very points, as before shown, where calorification occurs from the formation of Hydrate of Carbon."

"The muriatic acid (HCl) of the soluble fibrin and the soda (NaO) of the soluble albumen react on each other, and, depositing fibrin (Fn) and albumen (An) for NUTRITION, form common salt (NaCl) and evolve Oxygen (O) and Hydrogen (H), the very elements of water (HO), which are required to convert the Carbon (C) into Hydrate of Carbon (CHO). (It will be remembered that water was assumed *hypothetically* in § 63.) This answers the reserved and last question, 'Whence the elements of water to form the Hydrate of Carbon?'

"We have now shown how are united by chemico-vital union, all the important functions of animal life, how each is reciprocally dependent upon every and all others, and how all are again balanced in one harmonious series of vital affinities by the function of innervation."

The concluding chapter is taken up with certain "Physiological and Pathological Influences," as a chemical explanation of coagulation; probable function of the mesenteric glands; how sudden death occurs from air entering the jugular vein; discussion of the question whether there

is free carbonic acid in the blood; explanation of the cause of increased heat in fever; how animal heat serves as a reserve of fuel for calorification; fœtal physiology; the liver principally an organ of hematosis; answer to the objection that carbonic acid is evolved in the respiration of hydrogen and nitrogen; analogies and differences between animal and vegetable digestion and nutrition; formation of hydrate of carbon in vegetables, &c. With these extracts, we commend the work to all those who take an interest in animal chemistry, as one that will richly repay for the time spent in its perusal.

ART. XI.—*A Historical, Critical, and Therapeutical Analysis of the Principal Mineral Fountains at Saratoga Springs; together with general directions for their use.* By R. L. ALLEN, M.D. Resident and Consulting Physician. 18mo., pp. 71. Saratoga, 1844.

THIS is a very judicious and useful manual for invalids visiting Saratoga. The author is a highly respectable practitioner, and formerly an associate in business with the late and much lamented Dr. Steel, a gentleman of distinguished professional attainments, and many social virtues.

It appears that these celebrated waters were unknown to the whites, until the year 1767.

"During this year," says the author, "Sir William Johnson, of revolutionary memory, became a subject of disease, and a participator in pure savage hospitality and skill in the remedial use of the water. Being beyond the reach of common means of relief, and unable to relieve himself, he applied to his red friends for council and assistance. They advised the water of the High Rock spring, as the means within their reach and knowledge, best calculated to furnish the required aid. And as was customary with them, they carried out their precepts in their practice. They placed him upon a litter, and bore him upon their shoulders from Johnstown, Montgomery county, via Ballston lake, to the High Rock fountain—thereby giving the very best evidence in their power, of their knowledge of, and confidence in the prescription which they had made their white friend. And there at the fountain head, they administered to him the sparkling water from the Rock, to his perfect relief and cure. (Steel's Analysis.)

"From Johnson the knowledge of his cure was communicated to all the surrounding settlements of whites; who in turn visited the spring and used it as a remedial agent with corresponding success. From the time of Johnson's celebrated visit, these springs have been annually visited by the wise, the curious, the diseased, and the fashionable—every year increasing the number of strangers above that which preceded it—until it has become one of the most celebrated and fashionable watering places on the globe.

"During the first quarter of a century after the discovery of these waters by the whites, it is true, they were known to differ very essentially from the common water of the country. Their cathartic and diuretic effects had been repeatedly realized, personal experience had often tested their remedial agencies; and as by one voice, all who had known them acknowledged their great therapeutical powers. But why they exerted their sanative influences over their diseased organs, and gave them health for disease, buoyancy of spirits for dejection of mind, vigor for debility, they knew just as little as they did about the pathological state present in the cases which were cured, or failed of relief when the water had been used. But as soon as they began to be prescribed by the regular physi-

cians, it became obligatory on them to examine thoroughly into their chemical composition, and the grade and kind of diseases applicable to their administration.

"The first advance of this kind which was made, was by Samuel L. Mitchill of New York, who demonstrated the existence of carbonic acid as a constituent of these mineral waters. This demonstration was made in 1787. (Steel's Analysis, p. 40.) Six years subsequent to this discovery, Valentine Seaman, of New York city, a gentleman of high professional attainments and great worth, confirmed the experiment of Mitchill, and proved in addition the existence of carbonate of lime, magnesia, soda, iron, and chloride of sodium, and published a small work treating of the mineral waters of Ballston and Saratoga.*

"Some twenty-three years subsequent to Seaman's publication, William Mead of Philadelphia re-analyzed these waters, and also published a work on the same.

"In 1817, John H. Steel analyzed the waters of Ballston and Saratoga, and discovered the presence of Iodine. He also published the results of his analysis, which was an able work, and caused the Doctor great labor; but by so doing he rendered the public an essential service. About the same time Dr. Usher of Hartford also discovered the existence of Iodine in these waters, and published the discovery in the American Journal, No. 1, Vol. 16.

"This substance was and still is considered as a most happy constituent of the waters, and accounts for remedial effects produced by their use, which previously could not be explained.

"In 1830, A. A. Hays of New-Haven proved the existence of Potash and Bromine in the water of Congress spring."

The Mineral Waters of Saratoga are found, on analysis, to contain chloride of sodium, carbonate of soda, hydriodate of soda, carbonate of lime, sulphate of lime, carbonate of magnesia, sulphate of magnesia, carbonate of iron, bromide of potash, and sulphur: and in a gaseous state, carbonic acid and sulphuretted hydrogen.

As Dr. Allen has had much experience in the use of the Saratoga waters, we cannot better conclude this notice than by giving his remarks on their therapeutical application.

"*Depuration.*—As a depurating remedy in cases of long standing debility, and depraved general health, I know of no other remedial agent, either simple or compound, which can be compared with these mineral waters, if judiciously used and persevered in.

"As a cathartic, it is pleasant to the taste, grateful to the stomach, efficient as an evacuant, and leaves the alimentary canal stronger and its functions more vigorous.

"Patients whose digestive organs have been impaired by disease, enfeebled by excess, or exhausted by the toil of accumulated years, find in them an agent which will relieve the organs, without first increasing the existing debility. When taken in the morning upon an empty stomach, in a potation from a half pint to two pints, a full and copious dejection soon takes place, unloading the whole length of the digestive tube of the remnants of the previous day's *ingesta*, which is of no further use to the system, but on the contrary, may be a source of much harm. This free evacuation is copious and without pain, leaves the digestive tube at perfect freedom to exert its digestive and assimilating powers on the next portion of food presented to them. And although the dejections are free and in many instances most copious, yet no languor or debility is experienced by the patient, but on the contrary, his appetite is increased for the next meal—even the digestive functions are greatly enhanced—the power of assimilation is increased—the ability of nutrition augmented—and additional strength is imparted to the body, and new and increased vigor to the mind.

"As a diuretic, it is no less happy in its results, in cases proper for its use,

---

* Valentine Seaman's Analysis of Ballston and Saratoga mineral waters.

than as a cathartic. For its action on the kidneys and the general renal secretions is prompt, certain, uniform, and efficient, but must be differently administered when diuretic effects are to be obtained, the quantity taken at a time should be less, and repeated at shorter intervals, and if possible, drank fresh from the fountain head.

"As a diaphoretic, they are equally successful as a depurating agent. And very many cutaneous diseases find ready relief from an alterative course of them. In the cases which have resorted here for relief, and came under my personal observation, a very large proportion of them have had an exceedingly bad functional state of this large and important organ. And oftener than otherwise, if there had been any fault or error committed by their medical adviser at home, it had been in not sufficiently regarding this great depurating organ. The bowels would have been purged—the functions of the kidneys inquired after, but those of the skin would never have been thought of either by the patient or his physician; and the skin would be found neglected, sometimes even to the expense of ordinary cleanliness.

"*Bathing.*—The importance of a judicious external application of these waters, has been in my opinion much underrated by a large proportion of invalids who annually resort to these mineral fountains in pursuit of health.

"And I also think this fault is not to be limited to invalids who visit these Springs for relief from diseases which refuse to yield to the ordinary remedial agents, but it is a national error. It is first too much neglected in the nursery—and this negligence but too often increases with the ripe years of our American born and educated citizens. And a change in this is most earnestly demanded, and must be brought about, or we shall become in a few generations a nation of pallid invalids, with such irritable skins, from a want of bathing and proper exercise in the open air, that a change even of the electrical and humid state of the atmosphere, will throw us by neighborhoods into partial states of disease. And the noble sons and fair daughters of America will be but as so many weather-glasses, being quite as frail, equally excitable, and as changeable as a barometer.

"In some of the instances which have come under my directions and observation in the application of these mineral waters, I have thought the relief obtained was to be attributed rather to the judicious bathing daily indulged in, than to the water which was drank. But in a large proportion of the cases, the relief obtained was to be attributed to the mutual action of the waters internally administered and externally applied.

"The effect of a cold bath in removing constipation of the bowels, is in many instances most prompt; and those who are not in the habit of watching their effects would be very much disappointed at the results of such an application in the treatment of such cases of torpor of the first passages.

"I have known most copious stools produced by it alone, when the patient would require large doses of purgatives to produce an equal effect. And the results were not casual, but would be uniformly the same, if similarly applied, and the pathological state of the system remaining the same.

"The warm bath is equally proper in a relaxed state of the first passages, but in some chronic cases of this kind it ought not to be admitted, but a substitution of a tepid or a cold one should be adopted in its stead.

"*Bilious Diseases.*—In those cases where the liver is making bile improper in quality or quantity, and without organic lesion being present in the viscus, these waters used as a cathartic in the morning, with such assistants over night as the case may require, produce the most happy results. But if a higher grade of arterial action is present, or if organic lesion has taken place with the organ, and an anasarcous state of extremities has supervened, then they are injurious without an exception. But it must be remembered, that extensive swellings may take place from a great variety of debilitating agents other than organic disease, and which may be relieved with great facility by a proper and timely use of these mineral waters.

"In an inactive state of the bowels, when an evacuation is not obtained save at the expense of much time, or large doses of active medicines, with clay-colored stools and a dry and rough state of the skin, the cathartic mineral waters

taken in the morning, an hour or two before breakfast, in proper quantities for physic, and smaller portions through the day to operate on the kidneys and the skin, will in a few days regulate the system most perfectly.

"But in bilious difficulties of the above description, much relief may be obtained by proper and timely bathing. These baths should be of mineral water generally, and used in the form of a shower bath about ten o'clock in the morning.

"After the bath has been indulged in, it is important that the patient should be carefully wiped dry, and the friction on the surface continued with a coarse towel or flesh brush, until the skin is warm and generally flushed.

"This thorough rubbing should in most instances be done by the patient himself, for the circulation is thereby more effectually thrown upon the surface, and the congestion of the internal organs consequently more promptly relieved.

"In some of the above cases, I have known such an active state of the kidneys or skin to exist, that almost all the fluids of every description which the system could receive, would be passed directly from the body by the agency of the renal organs on the exudents of the skin. And notwithstanding large quantities of mineral water had been taken by the patient, yet his constipation would continue to be more and more difficult to overcome, the inconvenience of a torpidity of the bowels so much aggravated, and the long and unpleasant train of morbid actions incident to a diabetic state of the system, or profuse sweats superadded to his former sufferings by the very course resorted to for relief.

"This state of the system is easily overcome by proper medicine taken over night, followed in the morning by cathartic mineral water, together with bathing and friction of the skin.

"Another state of constipation with biliary derangements I have frequently seen here, which cannot be overcome by mineral water alone, or by scarcely any other physic, without first evacuating the adhesive mucous contents of the stomach, by a proper emetic. This adhesive slime seems to be so redundant, that the stomach is unaffected by cathartic remedies; but after this has been effectually dislodged, then small quantities of Congress water, if taken in the morning, and upon an empty stomach, will produce a full, free, and copious effect.

"Other cases, again, may have a little general excitement, which will be so much enhanced by the carbonic acid, that it becomes necessary to expel it from the water before it is taken. This is usually accomplished by setting the water in the lodging room over night, or by immersing it in warm water in the morning just before using it, which will ensure its cathartic effects by expelling the carbonic gas.

"*Alterative use of the water.*—When the cathartic effects are obtained from the use of the water, many people seem to think the work is completed, and they of course demand to be well—when, in truth, they have taken but one step out of the many towards a permanent cure. They have unloaded the first passage of ill prepared, feculent matter, by an antiseptic physic. But this has passed through the system by the bowels, and scarcely any of it has entered into the system proper, or passed the secretive organs and become a part of the circulating fluids of the body, or associated with the nourishment of the same. This is only to be done by small potations taken repeatedly through the day: and in most instances these draughts should be taken from the more tonic fountains of the village, as the Columbian, Hamilton, or High Rock springs.

"The quantity of water taken in this way, should be small at first, say a quarter of a tumbler to delicate females, and others in proportion, and repeated every hour or two throughout the day, and gradually increased in quantity until the maximum amount the system can dispose of properly, has been taken by the patient.

"In this way an alterative course is obtained, which may change the whole secretions of the body, a very important point to be obtained in most aberrations from health.

"These small alterative potations should be drank at the fountain when the water is as perfect as it is possible to obtain it.

"*Gravel.*—In gravelly states of the bladder, many well attested cases might be produced where the patients have been completely cured by the waters from these mineral fountains.

"They should be drank in such quantities, and with such repetition as will ensure a copious diuretic effect, when large quantities of sand and frequently small calculi will be discharged with the urine. This effect is frequently much assisted by the use of the warm bath, which, in a large part of the cases, will increase the ultimate discharge from the kidneys.

"And even in cases where there was evidently organic lesion of the bladder present, the free use of mineral water seemed to furnish more relief than any other remedy which had been used, although the patient had been subject to the directions of our first medical men in the large cities.

"*Chronic Rheumatism.*—This formidable disease has been repeatedly cured by a liberal use of the water taken as a cathartic in the morning, as an alterative through the day, and externally applied in the form of a bath, cold and fresh from one of the mineral fountains.

"*Phagedenic Sores.*—In ill conditioned ulcers of the above character these mineral waters have been found invaluable; and in most instances need to be both internally and externally used. The external application should be generally and locally prescribed—when, in a short time, the ulcers will change their whole aspect and begin to heal.

"*Cutaneous diseases.*—This class of diseases is very numerous, and in many cases much complication attends their pathology. But those diseased states of the skin depending upon morbid secretions, or a local habitation in the skin itself, derive signal benefit by a proper course of the drinking of, and bathing in these waters.

"*Scrofula.*—This strumous state of the system finds great relief from the use of the mineral waters of Saratoga.

"Those laboring under it, should drink the water in the morning as an aperient—take it as alterative in conjunction with alterative doses of iodine or bromine through the day, and bathe in it regularly every day, unless some particular reason for the contrary should be present.

"In these cases, the external application is highly important. The bromine and iodine exist in sufficient quantities in these waters, to sensibly affect such cases, when applied generally to the surface: and even amount to a similar degree of strength with the baths of this character which have been used with so much success in the south of Europe.

"The temperature and repetition of the baths in these difficulties must depend upon the general health of the patient, the state of the weather, and the season of the year when they are used.

"*Chlorosis.*—This disease and many other kindred difficulties, are much benefited by a judicious course of drinking and bathing in these mineral waters.

"But I have known some patients much injured by attempting to practise a course of diet, medicine and exercise, according to some popular directions which may be very proper in other cases, but not necessary in all—as for instance, early rising, long walks, deep draughts of cold water: and all this is to be accomplished before breakfast by females, who for years have not risen in the morning until the breakfast hour; never had been accustomed to walk any considerable distance at any time of the twenty-four hours; and whose stomachs are extremely irritable, and their general health feeble. For such patients to leave a warm bed, subject themselves to the difference of temperature between it and the morning air about the fountain, and drench their stomachs with large potations of cold mineral water, then return to the hotel, and add to all the rest a full meal of stimulating food, because this happens to be endured without positive and immediate sickness by some Amazon belle! By these remarks, I am not to be understood as being opposed to early rising, exercising in the morning air, and drinking the water at the several fountains; but I mean to be understood, as saying, that every person who visits these fountains in pursuit of health, cannot rise at the same hour in the morning; take a walk of the same length; drink the same number of tumblers of cold water; and eat the same kinds of food, and

to the same extent, with precisely the same results. I mean that every person's exercise should be measured by his ability to perform: his food, by his power to digest and assimilate: his rising in the morning, and the amount of water drank, where, and at what temperature, should depend upon the effects produced, rather than the popular opinion of some very good, wise, and fashionable old matron, who knows all about the water, because she has been here before with a very fashionable party, and drank it by rule; left her home in good health, but returned to it again sick and diseased.

"*Phthisis.*—Much has been said of late, about the beneficial effects of these waters in this disease. But I have yet to learn that they have ever been of use in such cases. And with those who have thought and written to the contrary, I would beg most respectfully to differ. I have never seen a case, where I thought there was even a degree of palliation produced by a use of the water, but on the contrary, always injurious, increasing all the alarming symptoms of this most formidable disease.

"I have also known many coughs and pains about the pectoral regions, most promptly and effectually cured by drinking these mineral waters; but the cough and pectoral pains were dependent upon a diseased action in one or more of the digestive and assimilating organs, and not on that pathological state of the lungs which produces phthisis pulmonalis.

"My advice to all who are laboring under the corroding influence of this disease, is not to drink of any one of our mineral fountains recently or remotely discovered and brought into notice."

ART. XII.—*Letters on Mesmerism.* By Miss HARRIET MARTINEAU. New York: Harper & Brothers. 1845. 8vo., pp. 27.

As a literary performance, we have, as medical journalists, nothing to do with this pamphlet; but so far as it claims to present the history of a medical case, and the treatment which resulted in a restoration to health, we are interested, and we, therefore, believe it to be a duty to devote some space to it.

Those who became acquainted with Miss Martineau, during her late visit to this country, know that she is a female of great talent, and more than ordinary curiosity; combining, with many of the better feminine qualities, as a vivid imagination, some of those attributes of mind which are generally supposed to attach exclusively to the male sex. We can easily imagine that we see her now, with her ear-trumpet, anxiously listening to some novel information; her countenance brightening up, as she becomes engaged in some discussion on slavery, or political economy, and growing eloquent as she expatiates on manners, morals, and religion; and we are delighted to reflect that this inquisitive and amiable woman, after some months or years of suffering, has again been restored to health, we care not *how*, but *that* is the very point to which we ask the reader's attention.

It appears that Miss M. was under the professional charge of Dr. Greenhaw, a very respectable practitioner of Newcastle, who, after the publication of Miss M.'s letters in the Athenæum, felt called upon, in self-defence, to give a full history of the case, with the treatment, &c. Dr. G.'s statement is copied into the Dublin Medical Press, of January

15th, and prefaced by the following very judicious remarks of the editor, which we extract as a sample of the opinions held by the British medical periodicals, in relation to this "remarkable case."

"It is painful to be obliged, in the discharge of our editorial duties, to minister to a morbid love of unenviable notoriety by exposing to public gaze the personal infirmities of any individual, but more especially is it so where that individual is a female and a lady of education. Our apology for publishing these details, even in a medical journal, knowing that by so doing we submit them more or less to public inspection, is, our finding them already in print, for most assuredly if they had been tendered to us in the first instance, we should have declined giving them a place in our columns. That Miss MARTINEAU's magnanimous resolve, to sacrifice 'all personal considerations to the social duty of imparting the facts' of her case, should have so far stifled all womanly feeling of shame, as to induce her to give her 'entire concurrence' to the publication of these most indelicate particulars, is not, perhaps, surprising; but it is amazing that all our former feelings of delicacy and propriety should be so completely prostrated that in the open face of day such impurities should be made the subject of prurient curiosity. But the fact is, that we are every day approaching nearer and nearer to the springs and sources of quackery in all its ramifications. Vanity, sheer vanity, egotism, and craving after notoriety, is more at the bottom of it than people think. Your consequential, ostentatious candidate for the attentions of the circle in which he moves, delights to assert his importance, and display his judgment by joining the discovery of a cure, or the patronizing of a charlatan; and the restless spoiled child of indulgence has full scope for the gratification of caprices, in flying from one quack to another in pursuit of relief from real or imaginary ailments. This poor lady has been so completely inflated by the breath of flattery, and so thoroughly persuaded into a belief of her being a most wonderful personage, that she thinks it quite a duty to tell the world how she feels, and how matters go on in her inside. So every fussy valetudinarian gratifies his self-love by recounting his deeds of doctoring, and boasting of his sagacity and discrimination in the discovery of a miraculous cure; while at the same time he enjoys the satisfaction of displaying his ability to incur expense and to command resources and luxuries beyond the reach of less favored mortals. In fact, this species of quack-fancier, whether male or female, is the same creature that we find flying about after all other kinds of novelties, and seeking by change of scene and new excitements to sustain the artificial condition of mind and body which he finds essential to his existence."—*Dublin Medical Press, Jan.* 15.

We shall now quote so much from Miss Martineau's "*Letters*" as will give the reader a pretty correct idea of her own view of her case; some parts of which will doubtless remind the reader, as they have us, of some of the details contained in that remarkable work, "*Confessions of an English Opium-Eater.*"

MISS MARTINEAU'S STATEMENT.

"It will be sufficient to explain briefly, in order to render my story intelligible, that the internal disease, under which I have suffered, appears to have been coming on for many years; and that after warnings of failing health, which I carelessly overlooked, I broke down, while travelling abroad, in June, 1839; that I sank lower and lower for three years after my return, and remained nearly stationary for two more, preceding last June. During these five years, I never felt wholly at ease for one single hour. I seldom had severe pain; but never entire comfort. A besetting sickness, almost disabling me from taking food for two years, brought me very low; and, together with other evils, it confined me to a condition of almost entire stillness—to a life passed between my bed and my sofa. It was not till after many attempts at gentle exercise that my friends agreed with me that the cost was too great for any advantage gained: and

at length it was clear that even going down one flight of stairs was imprudent. From that time, I lay still; and by means of this undisturbed quiet, and such an increase of opiates as kept down my most urgent discomforts, I passed the last two years with less suffering than the three preceding. There was, however, no favorable change in the disease. Everything was done for me that the best medical skill and science could suggest, and the most indefatigable humanity and family affection devise: but nothing could prevail beyond mere alleviation. My dependence on opiates was desperate. My kind and vigilant medical friend—the most sanguine man I know, and the most bent upon keeping his patients hopeful—avowed to me last Christmas, and twice afterwards, that he found himself compelled to give up all hope of affecting the disease—of doing more than keeping me up, in collateral respects, to the highest practicable point. This was no surprise to me; for when any specific medicine is taken for above two years without affecting the disease, there is no more ground for hope in reason than in feeling. In June last, I suffered more than usual, and new measures of alleviation were resorted to. As to all the essential points of the disease, I was never lower than immediately before I made trial of Mesmerism.

"If, at any time during my illness, I had been asked, with serious purpose, whether I believed there was no resource for me, I should have replied that Mesmerism might perhaps give me partial relief. I thought it right—and still think it was right—to wear out all other means first."

"It never presented itself to me as possible that disease so long and deeply fixed could be removed; and I was perfectly sincere in saying that the utmost I looked for was release from my miserable dependence on opiates. Deep as are my obligations to my faithful and skilful medical friend, for a long course of humane effort on his part, no one kindness of his has touched me so sensibly as the grace with which he met my desire to try a means of which he had no knowledge or opinion, and himself brought over the Mesmerist under whom the first trial of my susceptibility was made.

"Last winter, I wrote to two friends in London, telling them of my desire to try Mesmerism, and entreating them to be on the watch to let me know if any one came this way of whose aid I might avail myself. They watched for me, and one made it a business to gain all the information she could on my behalf; but nothing was actually done, or seemed likely to be done, when in June a sudden opening for the experiment was made, and without any effort of my own, and on the 22d I found myself, for the first time, under the hands of a Mesmerist."

"At the end of four months I was, as far as my own feelings could be any warrant, quite well. My mesmerist and I are not so precipitate as to conclude my disease yet extirpated, and my health established beyond all danger of relapse; because time only can prove such facts. We have not yet discontinued the mesmeric treatment, and I have not re-entered upon the hurry and bustle of the world. The case is thus not complete enough for a professional statement. But, as I am aware of no ailment, and am restored to the full enjoyment of active days and nights of rest, to the full use of my powers of body and mind, and as many invalids, still languishing in such illness as I have recovered from, are looking to me for guidance in the pursuit of health by the same means, I think it right not to delay giving a precise statement of my own mesmeric experience, and of my observation of some different manifestations in the instance of another patient in the same house. A further reason against delay is, that it would be a pity to omit the record of some of the fresh feelings and immature ideas which attend an early experience of mesmeric influence, and which it may be an aid and comfort to novices to recognize from my record. And again, as there is no saying, in regard to a subject so obscure, what is trivial and what is not, the fullest detail is likely to be the wisest, and the earlier the narrative the fuller; while better knowledge will teach us hereafter what are the non-essentials that may be dismissed.

"On Saturday, June 22d, Mr. Spencer Hall and my medical friend came, as

arranged, at my worst hour of the day, between the expiration of one opiate and the taking of another. By an accident the gentlemen were rather in a hurry—a circumstance unfavorable to a first experiment. But result enough was obtained to encourage a further trial, though it was of a nature entirely unanticipated by me. I had no other idea than that I should either drop asleep or feel nothing. I did not drop asleep, and I did feel something very strange.

"Various passes were tried by Mr. Hall; the first of those that appeared effectual, and the most so for some time after, were passes over the head, made from behind—passes from the forehead to the back of the head and a little way down the spine. A very short time after these were tried, and twenty minutes from the beginning of the *séance*, I became sensible of an extraordinary appearance, most unexpected, and wholly unlike anything I had ever conceived of. Something seemed to diffuse itself through the atmosphere—not like smoke, nor steam, nor haze—but most like a clear twilight, closing in from the windows and down from the ceiling, and in which one object after another melted away, till scarcely anything was left visible before my wide-opened eyes. First, the outlines of all objects were blurred; then a bust, standing on a pedestal in a strong light, melted quite away; then the opposite bust, then the table with its gay cover, then the floor, and the ceiling, till one small picture, high on the opposite wall, only remained visible—like a patch of phosphoric light. I feared to move my eyes, lest the singular appearance should vanish; and I cried out, 'O! deepen it! deepen it!' supposing this the precursor of the sleep. It could not be deepened, however; and when I glanced aside from the luminous point, I found that I need not fear the return of objects to their ordinary appearance while the passes were continued. The busts re-appeared, ghost-like, in the dim atmosphere, like faint shadows, except that their outlines, and the parts in the highest relief, burned with the same phosphoric light. The features of one, an Isis with bent head, seemed to be illumined by a fire on the floor, though this bust has its back to the windows. Wherever I glanced, all outlines were dressed in this beautiful light; and so they have been, at every *séance*, without exception, to this day; though the appearance has rather given way to drowsiness since I left off opiates entirely. This appearance continued during the remaining twenty minutes before the gentlemen were obliged to leave me. The other effects produced were, first, heat, oppression and sickness, and, for a few hours after, disordered stomach; followed, in the course of the evening, by a feeling of lightness and relief, in which I thought I could hardly be mistaken.

"Nothing is to me more unquestionable and more striking about this influence than the absence of all reaction. Its highest exhilaration is followed, not by depression or exhaustion, but by a further renovation. From the first hour to the present, I have never fallen back a single step. Every point gained has been steadily held. Improved composure of nerve and spirits has followed upon every mesmeric exhilaration. I have been spared all the weaknesses of convalescence, and have been carried through all the usually formidable phases of return from deep disease to health with a steadiness and tranquillity astonishing to all witnesses. At this time, before venturing to speak of my health as established, I believe myself more firm in nerve, more calm and steady in mind and spirits, than at any time of my life before. So much, in consideration of the natural and common fear of the mesmeric influence as pernicious excitement—as a kind of intoxication.

"I next procured, for guidance, Deleuze's 'Instruction Pratique sur le Magnétisme Animal.' Out of this I directed my maid: and for some weeks we went on pretty well. Finding my appetite and digestion sufficiently improved, I left off tonics, and also the medicine which I had taken for two years and four months, in obedience to my doctor's hope of affecting the disease,—though the eminent physician who saw me before that time declared that he had 'tried it in an infinite number of such cases, and never knew it avail.' I never felt the want of these medicines, nor others which I afterwards discontinued. From the first week in August, I took no medicines but opiates; and these I was gradually reducing. These particulars I mention to show how early in the experiment Mesmerism became my sole reliance."

"From the middle of August (after I had discontinued all medicines but opiates), the departure of the worst pains and oppressions of my disease made me suspect that the complaint itself,—the incurable, hopeless disease of so many years,—was reached; and now I first began to glance towards the thought of recovery. In two or three weeks more, it became certain that I was not deceived; and the radical amendment has since gone on, without intermission.

"Another thing, however, was also becoming clear: that more aid was necessary. My maid did for me whatever, under my own instruction, good-will and affection could do. But the patience and strenuous purpose required in a case of such long and deep-seated disease can only be looked for in an educated person, so familiar with the practice of Mesmerism as to be able to keep a steady eye on the end, through all delays and doubtful incidents. And it is also important, if not necessary, that the predominance of will should be in the Mesmerist, not the patient. The offices of an untrained servant may avail perfectly in a short case,—for the removal of sudden pain, or a brief illness; but, from the subordination being in the wrong party, we found ourselves coming to a stand.

"This difficulty was abolished by the kindness and sagacity of Mr. Atkinson, who had been my adviser throughout. He explained my position to a friend of his—a lady, the widow of a clergyman, deeply and practically interested in Mesmerism, possessed of great Mesmeric power, and of those high qualities of mind and heart which fortify and sanctify its influence. In pure zeal and benevolence, this lady came to me, and has been with me ever since. When I found myself able to repose on the knowledge and power (mental and moral) of my Mesmerist, the last impediments to my progress were cleared away, and I improved accordingly.

"Under her hands the visual appearances and other immediate sensations were much the same as before; but the experience of recovery was more rapid. I can describe it only by saying, that I felt as if my life were fed from day to day. The vital force infused or induced was as clear and certain as the strength given by food to those who are faint from hunger. I am careful to avoid theorizing at present on a subject which has not yet furnished me with a sufficiency of facts; but it can hardly be called theorizing to say (while silent as to the nature of the agency) that the principle of life itself—that principle which is antagonistic to disease—appears to be fortified by the mesmeric influence; and thus far we may account for Mesmerism being no specific, but successful through the widest range of diseases that are not hereditary, and have not caused disorganization. No mistake about Mesmerism is more prevalent than the supposition that it can avail only in nervous diseases. The numerous cases recorded of cure of rheumatism, dropsy, cancer, and the whole class of tumors,—cases as distinct, and almost as numerous as those of cure of paralysis, epilepsy, and other diseases of the brain and nerves, must make any inquirer cautious of limiting his anticipations and experiments by any theory of exclusive action on the nervous system. Whether Mesmerism, and, indeed, any influence whatever, acts exclusively through the nervous system, is another question.

"A few days after the arrival of my kind Mesmerist, I had my foot on the grass for the first time for four years and a half. I went down to the little garden under my windows. I never before was in the open air, after an illness, of merely a week or two, without feeling more or less overpowered; but now, under the open sky, after four years and a half spent between bed and a sofa, I felt no faintness, exhaustion, or nervousness of any kind. I was somewhat haunted for a day or two by the stalks of the grass, which I had not seen growing for so long (for, well supplied as I had been with flowers, rich and rare, I had seen no grass, except from my windows); but at the time, I was as self-possessed as any walker in the place. In a day or two, I walked round the garden, then down the lane, then to the haven, and so on, till now, in two months, five miles are no fatigue to me. At first, the evidences of the extent of the disease were so clear as to make me think that I had never before fully understood how ill I had been. They disappeared one by one; and now I feel nothing of them.

"The same fortifying influence carried me through the greatest effort of all,—

the final severance from opiates. What that struggle is, can be conceived only by those who have experienced, or watched it with solicitude in a case of desperate dependence on them for years. No previous reduction can bridge over the chasm which separates an opiated from the natural state. I see in my own experience a consoling promise for the diseased, and also for the intemperate, who may desire to regain a natural condition, but might fail through bodily suffering. Where the mesmeric sleep can be induced, the transition may be made comparatively easy. It appears, however, that opiates are a great hindrance to the production of sleep; but even so, the mesmeric influence is an inestimable help, as I can testify. I gave all my opiates to my Mesmerist, desiring her not to let me have any on any entreaty; and during the day I scarcely felt the want of them. Her mesmerizing kept me up; and, much more, it intercepted the distress,—obviated the accumulation of miseries under which the unaided sufferer is apt to sink. It enabled me to encounter every night afresh,—acting as it does in cases of insanity, where it is all-important to suspend the peculiar irritation—to banish the haunting idea. What further aid I derived in this last struggle from Mesmerism in another form, I shall mention when I detail the other case with which my own became implicated, and in which, to myself at least, he interest of my own has completely merged.

"It will be supposed that, during the whole experiment, I longed to enjoy the mesmeric sleep, and was on the watch for some of the wonders which I knew to be common. The sleep never came, and except the great marvel of restored health, I have experienced less of the wonders than I have observed in another. Some curious particulars are, however, worth noting."

We have thus quoted perhaps sufficient from Miss M.'s statement, to enable the reader to form a sufficiently correct idea of the facts in the case. Whether the effects, above related, are to be attributed to the influence of a vivid imagination, and the invigorating power of strong faith and hope, or to some invisible *opus operatum*, as the divines have it, or to the medical treatment, aided by the co-operating efforts of nature, our readers will be better able to judge, after reading Dr. Greenhow's account of the case, which is as follows:—

"In a letter from Venice, dated June 14th, 1839, Miss H. M., ætat. 27, first communicated to me her early feelings of indisposition. During the preceding year she had been sensible of a 'great failure of nerve and spirits, and of strength.' Frequently she experienced sharp pain in the uterine region. The catamenia became more frequent, occurring every two or three weeks; and a very irritating discharge, of a brown or yellowish color, took place in the intervals.

"The irregular uterine discharges continued, occasionally mixed with clotted blood, and she suffered from many distressing nervous symptoms, evidently arising from uterine irritation; 'inability to stand or walk, aching and weariness of the back, extending down the legs to the heels;' 'tenderness and pain, on pressure in the left groin, extending by the hip to the back. The spirits became much depressed, and the power of enjoyment was gone.' At the same time 'a *membranous substance*, like the end of a little finger,' was discovered projecting from the os uteri.

"This substance is described in the following terms, in a letter to Dr. Nardo, of Venice, who was consulted on the occasion, by a friend who accompanied Miss H. M. on her journey. 'Twice there has been a discharge similar in color and substance to blood. Two days ago it was found, that from the same passage (vagina) was protruding the extremity of a solid substance, totally insensible, of a reddish-brown color, in form resembling the end of a bullock's tongue, with a decided edge or point—it can be pushed back without difficulty or pain, but it falls again.' Dr. Nardo, who had no opportunity of actual examination, conjectured either prolapsus uteri or a polypous tumor of a fibrous nature, to be

the occasion of these appearances; and recommended the careful avoidance of violent motion, and all that was found to increase indisposition.

"The following extract from a letter dated Lucerne, July 6, 1839, seems to fix the period when one character of the complaint, which will be presently noticed more particularly (*retroversion of the uterus*), took place:—'I cannot walk without injury, as I said, and keep my feet laid up, and my knees somewhat raised, as the easiest posture. I began to use the syringe, as you and Dr. Nardo recommended: it was a great relief, but in *three days* there was *no room for it*, and on this account I have never been able to use it since. I discontinued the sponge, finding it irritating, as you say, and it is not now *necessary*.'

"The use of the sponge as a pessary, and the syringe for injecting tepid water, or other fluid, into the vagina, is referred to in this passage, and needs no comment; it is the occupation of the cavity of the vagina by the enlarged and retroverted uterus, which I wish to be held in view, as throwing some light on the subsequent history of the case.

"In the end of July, 1839, Miss H. M. arrived in Newcastle, and placed herself under my care. She was then suffering from the various morbid nervous sensations already described; and though she continued to take moderate walking exercise, it was attended with great discomfort and inconvenience. There was no difficulty in referring the whole train of symptoms to some organic or functional derangement of the uterus; and an examination was soon instituted to ascertain its proper character.

"The uterus was found large, retroverted, and fixed low down in the vagina, the os and cervix uteri occupying the anterior part of the cavity, and the body and fundus of the organ passing horizontally backwards, till the latter approached the sacrum. The enlarged uterus thus occupying the antero-posterior diameter of the pelvis, pressed, respectively, against the urethra and neck of the bladder and the lower part of the rectum; and the embarrassment occasioned by this pressure produced corresponding symptoms, which were often the occasion of great uneasiness and inconvenience. While the fundus uteri extended backwards towards the sacrum, the cervix was bent downwards behind the pubes, nearly at a right angle, and hanging from the lip was a small polypus, which was soon removed; but without any alleviation of the symptoms. I was assured by my patient that the projecting body, which showed itself at Venice, was different from, and much larger than, this small polypus; and though the os uteri was not dilatable with the finger, and from its preternatural position, was in a very unfavorable condition for the exclusion of any body contained within the uterus, I was for some time led to hope that another and larger polypus might again make its appearance. Notwithstanding the use of suitable measures—warm baths and ergot of rye—to promote this object, my expectations were disappointed; and the treatment of the case soon resolved itself into the employment of appropriate palliatives.

"The tenderness in the left groin was somewhat relieved by leeches. The increasing difficulty of bearing exercise, however moderate, soon rendered rest absolutely necessary; and the feelings of nervous discomfort indicated recourse to opiates, from which, though always used in great moderation, much relief was obtained. One of the most distressing symptoms which subsequently supervened, was an oppressive sickness, frequently amounting to retching; and much difficulty in micturition and in emptying the bowels was occasioned by the pressure of the uterine tumor. From the same cause arose the distressing pains down the lower extremities, frequently extending to the heels. The abdomen became considerably distended during the progress of these symptoms; but this arose more from a general distension and fullness of the bowels, from flatus and other contents, than the enlargement of the uterus, which could never be felt rising above the brim of the pelvis: though its increased size, doubtless, by pushing the abdominal viscera upwards, tended in some measure to produce a general enlargement of the figure.

"It not unfrequently happened, although, by the use of gentle aperients or emollient injections, a pretty regular action of the bowels was secured, that a gradual accumulation of their contents took place, giving rise to increased distress, which required the use of more active purgatives for its relief. An occa-

sional attack of more acute disease from accidental causes—for example, a large abscess in the throat, or severe gastrodynia (from which Miss M. suffered long and acutely many years ago), was superadded to the ordinary symptoms arising from the local disease, aggravating their intensity, and leaving for a time the feeling of increased debility and inaptitude for physical exertion. The constant and distressing aching in the back rendered it painful to rest upon the sacrum in reclining on the sofa; and some relief was obtained by resting in a prone position. A couch, contrived for this purpose, was found a source of much comfort to the patient.

"So little variation took place in the character of the symptoms, or the pathological condition of the affected organ, as to render needless minute details of continued morbid feelings, or of the treatment suggested for their relief.

"In 1840 I made a statement of the case in writing to Sir Charles M. Clarke, who concurred with me in thinking that rest and palliative treatment, the general health being carefully maintained, could alone be depended upon.

"In September, 1841, Sir Charles M. Clarke having occasion to visit this part of the country, I had an opportunity of availing myself more directly of his opinion.

"After a very careful investigation in the case, Sir Charles gave an opinion verbally, which I was induced afterwards to request him to express in writing. In a note dated September 30th, 1841, he says—'It was my intention to say that I perfectly agreed with you as to the nature of the complaint, that the disease was an enlargement of the BODY of the uterus; that the NECK of that organ was perfectly healthy; that although the majority of these cases of enlargement of the BODY of the uterus did not yield to external applications or to internal remedies, that, nevertheless, the disorder produced mechanical symptoms only, and *did not lead to any fatal result*, to which termination disease of the *neck* of the uterus did lead.

"'Farther, I mentioned that in an instance or two I *had* known such complaints as Miss M.'s subside, and that I would suggest the employment of certain means for this desirable purpose.' The means proposed by Sir Charles M. Clarke was the continued external and iodine ointment.

"To this measure my patient had so decided an objection, that she could not be prevailed upon to carry it into effect. It was on this account that I was induced to propose a course of iodide of iron, which, with few and short intervals, was persevered in till July or August of the present year. Under the use of this medicine the distressing sickness was greatly mitigated, the appetite improved, some morbid feelings were alleviated, and an increased tone of general bodily health, as well as of mental energy, showed itself. The following extract from a note written in September, 1843, will show her opinion of its effects at that time:—'I suppose I owe my much improved comfort mainly to them (the pills of iodide of iron); indeed, it is very great. The pulling and sinking—the mechanical troubles as one may call them—of course continue, but the almost total absence of sickness, and the striking lessening of the "distress" are such a comfort to me!' Occasional, but not very frequent examinations took place into the pathological condition of the affected organ, but no appreciable change could be discovered, except the appearance of a membranous substance at the os uteri, which, generally, scarcely protruded beyond its lips, though occasionally it was described as of larger extent. This was said to resemble the appearance observed at Venice, though of smaller dimensions. This substance evidently proceeded from the interior of the uterus, and had no attachment to the neck, the point of the finger passing round it on all sides. Its appearance naturally gave rise to the renewed supposition that the uterus might contain a preternatural growth of a polypous character, the separation and discharge of which might be effected by time.

"On the 2d of April, 1844, I was first enabled to detect a slight change in the condition of the uterus. The attachment of the fundus was less fixed, and it could be slightly raised from its position. The membranous pendicle described above, and the general position of the organ, remained as on former examinations.

"In the beginning of June, Miss M. suffered much from an attack of indigestion,

with disordered and loaded bowels. The symptoms proper to the organic affection, especially the distressing pain in the back, were for a time increased; and while proper means were resorted to for the correction of visceral derangement, a plaster with belladonna was applied to the sacral region, from which but slight relief was obtained. The unwonted symptoms of indisposition had subsided, when, on June 22d, the mesmeric treatment was commenced, of which a full account has been published in the *Athenæum* by Miss M. From this time she ceased to be properly treated under my care, though her accustomed remedies were not yet laid aside. I shall therefore pass over the interval till September 4th, on which day I carefully repeated my examination, and found, as on April 2d, that the posterior connections of the uterus were less fixed than formerly. The retroversion continues, but the fundus, which rests against the rectum and sacrum, feels looser, and admits of being raised to some extent with the finger in vaginam.

"The uterus feels altogether less firm, and more yielding in its substance, and the os uteri is to a certain extent dilatable, yielding to the finger in a slight degree more than formerly. Within, and slightly projecting from the os uteri, can be felt *two* substances, which convey to the finger a sensation as if two lumbrici, of moderate size, hung through the mouth of the uterus. These membranous projecting bodies are said, on pressure, occasionally to exude a reddish discharge. In addition to the knowledge obtained by this examination, Miss M. supplied me with the following reports of herself, at this and several succeeding visits which I made her, previous to the next and final examination into the pathological condition of the uterus, on December 6th. On this day, (September 4th), she informed me that the catamenia, which for many years had taken place at shorter intervals than natural (every two or three weeks), have resumed their natural course. That the breasts have increased in bulk. The pills of iodide of iron, and all aperients, have been discontinued, the bowels having lately acted with ease and regularity. The use of opiates has been greatly diminished by enema, and internally, altogether omitted. The sickness and other gastric inconveniences have ceased; the irritation in the rectum and neck of the bladder are no longer complained of;—quietude and repose have succeeded to restlessness and irritability; and the nervous system has acquired a greatly improved tone.

"11th. Miss M. continues comfortable, with greatly diminished doses of the opiate; other medicines unnecessary. Has this day been in the garden for some time, laid on a sofa cushion.

"21st. Miss M. reports favorably in all respects of herself. Opiate reduced to a very small dose. Yesterday walked round the castle-yard; to-day, the same, with the addition of a walk to the Haven—feels somewhat tired, but no other uneasy effects.

"October 8th. Miss M. informed me that she can now take long walks—to-day, two miles and a half. Has discontinued opiates for five days. At first the nights were bad. Last night she slept well, having taken a small quantity of warm brandy and water. No irritation is now felt at the neck of the bladder. Some pressure still on rectum, but otherwise feels well. Bowels regular without medicine.

"December 6th. Again I made a careful examination into the state of Miss M. The fundus uteri is more disengaged than at the last examination, and admits of being raised somewhat higher. It is certainly *less fixed*, and in this respect has improved at each time of examination since April 2d, when the first degree of improvement was observed. The retroversion continues, the fundus still extending towards the sacrum, while the os uteri approaches the pubes—the organ remains large and firm, and is yet turned back nearly at a right angle from the cervix uteri. The two membranous pendicles remain hanging out of the os uteri, as at the last examination. The health is represented as quite good, and the catamenia as regular—the nervous pains and irritations having all subsided. The person is less; but, as abdominal distension depended principally upon the gaseous and other contents of the intestines, and in a slight degree only on the uterine tumor, it is probable that renewed habits of activity have greatly contributed to restore the symmetry of the person in this respect.

"I have purposely avoided interrupting the narrative of the case by details of the medicines prescribed. But I shall here append the prescriptions employed, except on particular emergencies, during the last three years. A glance at them will suffice to show how erroneous is the supposition entertained by many persons that Miss M. was in the habit of seeking relief in large and unmeasured doses of opium.

1. Anodyne lotion.

℞ Misturæ camphoræ.
Mist. G. Acaciæ, āā ℥viii.
Tincturæ opii, ℥vii. M.

One ounce to be injected into the rectum every alternate day.

2. Anodyne pills.

℞ Pilulæ rhei. co. gr. xviii.
Mur. morph. g. iii. M. et divide in pilul. xii.

One anodyne pill to be taken every alternate day, and occasionally when suffering more than ordinary distress.

3. Aperient pills.

℞ Ext. colocynth. co.
Ext. hyoscyami, āā ℥i. M. et divide in pilul. xxiv.

Two aperient pills to be taken every alternate night, between the use of the anodyne injection.

4. Tonic pills.

℞ Ferri. iodidi.
Pul. zingib. āā gr. xxx., Cons. q.s. ut ft. pilul. xxx.

One tonic pill to be taken three times a day.

"Before the use of the anodyne lotion, it was occasionally found necessary to empty the rectum, by means of a common domestic injection.

"I have endeavored to render the preceding sketch comprehensive and concise, avoiding equally unnecessary details, and omitting nothing essential to the full comprehension of the true character of the case. Knowing well that no symptoms of malignant disease of the affected organ existed, I always believed that a time would arrive when my patient would be relieved from most of her distressing symptoms, and released from her long-continued confinement. The catamenial crisis appeared the most probable period, but I did not despair of this happening sooner; though she never willingly listened to my suggestions of the probability of such prospective events, and seemed always best satisfied with anything approaching to an admission that she must ever remain a secluded invalid. This state of mind, perhaps, may be considered as an additional symptom of the morbid influence over the nervous system, of the class of diseases in which this case must be included.

"During the last year or two, in common with many of the friends of Miss M., I had frequent opportunities of observing the increased ease and freedom with which she moved about her sitting-room; and my conviction became confirmed, that the time was approaching when she would resume her habits of exercise in the open air. Oftener than once I have made use of the somewhat strong expression, that some day, probably before long, Miss M. *would take up her bed and walk.*

"In the history of this case it is probable that the advocates of mesmerism will find reasons and arguments in support of their opinions. But the experienced practitioner, carefully distinguishing the *post hoc* from the *propter hoc*, will have little difficulty in bringing the whole into harmony with the well-established laws of human physiology.

"As regards the pathology of the case, he will conclude that the condition of the uterus in December is but the natural sequel of progressive improvement begun in, or antecedent to, the month of April; and as regards the relief from the distressing nervous symptoms connected therewith, that the time had arrived when a new and powerful stimulus only was required to enable the enthusiastic mind of my patient to shake them off.

"After bestowing my best consideration on the subject, this is the conclusion which most strongly forces itself on my own mind."

ART. XIII.—*Medical Jurisprudence.* By ALFRED S. TAYLOR. *Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital, &c.* Edited, with notes and additions, by R. EGGLESFIELD GRIFFITH, M. D., &c. 8vo. pp. 539. Lea & Blanchard. Phil., 1845.

Principles of Forensic Medicine. By W. A. GUY, M. D. Cantab Prof. of Forensic Medicine, King's College, Lond.: Physician to King's Coll. Hospital, &c. First Am. Edition, with notes and additions. By CHARLES A. LEE, M. D., &c. 8vo. pp. 711. Harper & Brothers. New York: 1845.

WE place the titles of these books under the same head, because they treat of the same subjects, are to a considerable extent similar in their plan and execution, and because we can thus set forth their comparative merits, in a clearer and more intelligible manner.

With the latter we profess to be tolerably well acquainted, as we have endeavored to supply what was lacking to adapt it to the wants of the student and practitioner in this country; and with the former, we can affirm that we have read it with some care, which is more than all reviewers can say of the books that pass under notice.

Both of these works were published in London, in parts. The first part of Mr. Taylor's work appeared in 1836; but it was commenced on so extensive a plan, that he found it impossible to complete it within a smaller compass than four volumes; he therefore re-arranged the subject, and by using villainously small type, has succeeded in condensing the whole into one small volume—making, however, with the additions of the American editor, in readable type, a handsome octavo of 539 pages.

Mr. Taylor has followed no other arrangement than that of placing the subjects "in the order of their importance." First, he takes up the subject of "POISONING," which is ably treated, occupying no less than 220 pages: the same subject in Guy, takes up but 188 pages. Mr. T. follows very closely the arrangement of Christison, as well as his mode of treating the individual articles; his classification is that originally proposed by Orfila. The directions in relation to *Chemical Analysis* are fuller than will be found elsewhere, out of Christison, and the symptoms and treatment are also dwelt on at considerable length, and in a very satisfactory manner. This fact of Mr. T.'s work cannot fail of giving full satisfaction to the reader, and we hardly know where we have a greater mass of valuable information, condensed within so small a compass. Mr. Guy has also treated the subject of Toxicology very ably. His arrangement, like that of Taylor's, is borrowed from Orfila and Christison, but he is far more concise in detailing symptoms, and chemical analysis, &c., his object apparently having been to render the tests for the poisons more easy of comprehension. In order to impress them more effectually on the memory, he has first arranged them in the order in which they would be applied, on the supposition that the substance submitted to analysis was unknown, and then adding such as are most characteristic of the poison in question. Dr. G. has also added some new analytical tables, and in the case of some of the more important poisons, he has condensed the value of individual symptoms, and the duration of the poisoning, from an extensive and careful analysis of cases. It is difficult to decide which of these modes of treating poisons is preferable; we are, however, inclined to think that the elaborate details of Mr. Taylor will tend rather to perplex the mind, unless accustomed somewhat to

toxicological researches. To the student, we are very certain that Mr. G.'s manner of discussing the different articles will prove the most advantageous—and to the experienced practitioner the details will be found sufficiently minute for every practical purpose. The next subject treated by Mr. T. is that of "WOUNDS," occupying 107 pages. As these often give rise to questions, requiring the aid of the medical jurist, they are very properly discussed at considerable length. Mr. Guy sums up what he has to say on the same topics in about 60 pages.

The subject of "INFANTICIDE" is next in order; and takes up in Mr. T.'s treatise about forty pages only; in Mr. G.'s fifty-three pages. Both have availed themselves extensively of the labors of our distinguished countryman, Professor J. B. Beck, whose original researches on infanticide have constituted a mine from which all subsequent writers have continued to borrow (to use no harsher epithet). The results, however, to which both of our authors have arrived, differ somewhat from those of the authority above named. For example, Mr. T. remarks, "Many, in the present day, assert that the hydrostatic test is capable of proving whether a child has been *born alive or not* (*Beck's Med. Jour.*, p. 268). From what has already been stated, as well as from the most simple reflection on the circumstances accompanying the birth of children, I think it must be evident that the hydrostatic test is no more capable of showing that a child has been born alive or dead, than it is of proving whether it has been murdered or died from natural causes."—(See pp. 373, 4, 5, 6.) As respiration may be performed while the child is in the uterus, after the rupture of the membranes, the mouth of the child being at the os uteri, or while the head is in the vagina, or, lastly, while the head protrudes from the vagina, and still in each case the child may be still-born, Mr. T. very justly concludes that it is not sufficient for a medical witness to declare, from the state of the lungs, that the child was alive at the time of birth, but that he ought to be able to prove, from other circumstances, that the child was *born* alive, or that it was living after its body had *entirely* come into the world.

We have not space to dwell on all the subjects discussed in these volumes; we cannot, however, refrain from adding a remark or two on the manner in which the subject of INSANITY is treated. Mr. Taylor devotes about twenty pages to its consideration, including *criminal responsibility*—a topic which has assumed so much importance within the last few years—and we are compelled to say that this is the most meagre and least satisfactory portion of Mr. T.'s work. For some judicious criticisms on this part of the treatise, we refer to the American Journal of Insanity, pp. 281, 2, 3. We are inclined to believe that Mr. Guy has succeeded in handling this subject in a more satisfactory manner than Mr. T. But for proof of this assertion, we can only refer to the works themselves. As a treatise on medical jurisprudence, Mr. T.'s work is far less complete, in our judgment, than that of Mr. G. No chapters are devoted by him to the separate consideration of "*Feigned Diseases*," "*Age*," "*Identity*," "*Survivorship*," &c.; nor does the subject of "Medical Evidence" find admittance in his pages. All these and several other topics, not noticed by Mr. T., are fully discussed by Mr. Guy, who seems to have aimed throughout to render his work useful to the practitioner, by simplifying some subjects, by forming, in respect to others, more accurate standards of comparison, and by analyzing with care those statements of authors which bear upon points of the

greatest practical importance. He first begins with a short statement of the existing provisions and requirements of the law, which is followed by an investigation, under distinct heads, of the chief medical questions arising out of the case; to which are appended practical rules for medico-legal examination, and cases, by way of illustration. The author, as it seems to us, possesses a rare faculty of simplifying the most difficult questions in legal medicine, and eliciting from authenticated facts its broad principles. As a text-book for students, as well as a manual for the practitioner of medicine and law, we believe Mr. G.'s work will be found particularly fitted. Concise in its statements, simple in its arrangements, and sufficiently ample in illustration, it presents claims to the patronage of both professions, not inferior to those of any similar work of equal size hitherto published on the same subject. In short, it is a comprehensive epitome of what is known in medical jurisprudence, embodying, within a convenient compass, all its important facts and principles, illustrated by a sufficient number of cases, but not to such an extent as to overburden its pages with unnecessary detail. As to the style in which these works are brought out, we feel no hesitation in claiming a decided superiority for the New York publishers; indeed, few publications on medicine have yet appeared in this country, which, in respect to paper, type, printing, and binding, can take precedence over Guy's "Principles of Forensic Medicine."

We cannot conclude this notice, without expressing our regret to perceive, by late English medical journals, that the authors of these excellent works have had an unpleasant paper controversy. It appears that a reviewer, in the London Medical Gazette, accused Mr. Guy of having made an unfair use of Mr. Taylor's book, not only adopting the plan of Mr. T., in treating the subject of poisons, but also appropriating, in an abridged form, a considerable portion of the work. This was followed by a letter from Mr. Taylor himself, who stated that he considered the charges of the reviewer to be correct, and that, in his opinion, his "Manual of Medical Jurisprudence had been more frequently used by Dr. Guy, without reference or acknowledgment, than was either proper or becoming in one writer following another so closely on the same subject." To these charges, Dr. Guy puts in the plea of "not guilty," and deems them "unparalleled for their injustice." He states that a threat had been held out by Mr. T., that his Third Part, when it appeared (and we began to think it never would appear), would have to pass through "a very severe ordeal;" and this, he remarks, made him very cautious about making any improper use of Mr. Taylor's book. We can easily imagine that, as he remarks, Mr. Taylor's work was a great embarrassment to him; for if he had referred to it, he might, by some untoward coincidence, have strengthened the charge of plagiarism; and if, on the contrary, he had made no reference to it, he would have been accused of passing over in silence the name of a cotemporary. We have observed that Mr. Taylor followed the arrangement of Christison; and Mr. Guy remarks, that if he wished to avoid the charge of imitating the former, he must have departed as far as possible from the plan of the latter, which he did not choose to do, and so incurred the charge of following Mr. Taylor. Now, as to the real facts of the case. We have had occasion, as before stated, to compare the two works very carefully, and we do not find any evidence of plagiarism on the part of Mr. Guy. He has indeed posted up, so to speak, as every scientific writer is bound to do, all the

facts and principles of the science, so far as known, up to the date of his publication; and he has, of course, given such new tests, for poisons, as Mr. Taylor had discovered, as well as those from Christison and Orfila. But in no instance, as we believe, has he used Mr. Taylor's language, or quoted a single sentence, "*ipsissimis verbis*," as alleged. He has produced a work quite as original, in every respect, as any other hitherto published on the same subject. He has gathered facts, as Mr. Taylor has, from every source, and has made far less use of Taylor than he has of Christison, or Beck, and used even these less that Mr. T. himself has. He has given us a new arrangement of the tests for poisons; invented a new form of chemical table; presented sundry extensive analyses of cases of poisoning; introduced many novel suggestions and experiments, and altogether produced as original a work on medical jurisprudence as any with which we are acquainted. The charge is, indeed, in the highest degree preposterous and absurd. Suppose Dr. T. R. Beck should be accused of plagiarism, because, in the Toxicological part of his work on medical jurisprudence, he had borrowed largely from Christison, or Orfila? Could his work have taken rank as a standard on the subject, if he had not done so? Are not scientific facts (including chemical equivalents, tests for poisons, and incompatibles), common property? Who claims the right to debar the scientific world of discoveries in toxicological science,—a science in which every human being is deeply interested? And yet such, as we understand them, are the claims of Dr. Taylor. He did not accuse Mr. Guy of borrowing his *language* but only his *facts!* The charge comes, we must say, with an ill grace from the author of the "Manual;" for we have been able to find but very few original suggestions in his whole work. We hope, therefore, that Mr. T. will make the *amende honorable*, and acknowledge that the priority of publication confers no right of appropriating the common and familiar facts of chemistry. If he is not ready to do this, then let him persist in denying Mr. Guy, and every one else, the right (e. g.) of describing the effect of heat on the arsenite of copper; of mentioning the fact that arsenious acid combines with alkalies, forming soluble arsenites; of stating the deposit of octohedral crystals from a solution of white arsenic; of relating the effect of liquor potassæ on arsenic and corrosive sublimate, or of hydrosulphuret of ammonia on arsenic; or of so much as naming the chemical equivalents,—let him do this, we say, and so far from injuring Mr. Guy, we venture to assure him he will only injure himself. We, therefore, cannot but think that the attack on Mr. Guy is a most unjust one, as he has made no more use of Mr. Taylor's work than he was bound to do, in good faith, to his readers, and no more than every author is in the habit of making of the works of his predecessors. Next to the offence of appropriating the labors of others, without due acknowledgment, we know of nothing in authorship more contemptible than this over-sensitiveness, lest the results of our labors may be thus appropriated.

N. B. Those who have purchased some of the early copies of the American edition of Guy, may have observed on the top of the title-page the following significant words:

"*The latest and best work on Forensic Medicine.*"

Now, though we are not called on to say whether this be true or not in

our judgment, wishing to leave this to be decided by the impartial reader, we nevertheless owe it to ourselves to state, that the title-page aforesaid is a spurious one, with which the editor had nothing to do—not having seen it till published, and for which the original proprietor alone is responsible. The editor feels no disposition to blazon forth his performances on a title-page, nor to forestall public opinion by an imprimatur, which may possibly be reversed at the same tribunal. Editors who notice the work, should such copies be sent them, will please bear this explanation in mind—the true title of the work being prefixed to this article.

Art. XIV.—*Researches on Scrofulous Diseases.* By J. G. Lugol, D. M. P.; Physician to the Hospital of St. Louis, Chevalier of the Legion of Honor, etc. etc. Translated from the French by A. Sidney Doane, A.M., M.D., late Health Officer of the Port of New York, etc. etc.; with an Appendix, comprising Formulæ for the treatment of Scrofula. New York: J. S. Redfield, 1845. pp. 276.

When we consider the great variety of chronic affections, their extensive prevalence from the earlier period of existence, and the vast amount of protracted suffering they produce, we cannot but be struck with their importance in a practical point of view, and the necessity of a close investigation into their general causes, and the study of their nature beyond the strict revelations of pathological anatomy. A more enlarged and comprehensive consideration of the subject of chronic diseases is needed before we can understand them in their nature; a more intelligent grouping of them appears to be required before we can successfully encounter them in all their varied forms. The living pathology—the consideration of the actual powers of the system—become an important and essential branch of medical investigation in all diseases of a chronic form, and where they exhibit that complication of derangement in the different tissues which can only be referred to an imperfect action of the power of life, connected with a deficient development of the system. All acknowledge the difficulty of treating many of these affections, and doubtless some of this difficulty arises from regarding them as local derangements; but an investigation into the condition of the entire system would often reveal to us causes for these protracted diseases which could not otherwise be found. The greater or less absence of the powers of recuperation from defective organization points out the true cause of the long continuance of some of these diseases.

Most of these obstinate and too often incurable maladies depend upon that state of the system which has been termed scrofulous, a term which, when used to distinguish a state of the constitution, implies a less proportion of normal action than when the system is fully developed in all its vigor and possesses its full amount of healthy action. We must go back to the ultimate state of interstitial action for a proper solution of the difficulty which so often meets us in witnessing the different results of the same exciting cause of disease, and refer to the nutritive process—to the imperfect powers of reparation and development, many of those obstinate

chronic diseases which are produced by the same causes that in other instances produce diseases which are violent but transient in their duration. A feeble action of the vital powers gives rise to the protracted symptoms of the former class of affections. When the constitution of different individuals is examined two great classes will be remarked. The one is characterized by all the evidences of healthy action, where active inflammation ensues on the application of its ordinary causes, but terminating quickly in health in by far the greatest number of instances. This disposition exists in those possessing what is denominated a sanguineous temperament; which is in reality nothing more than the possession of the full development of the body. In such persons blood abounds in fibrine, the complexion is ruddy, and the muscles are firm and well-marked; all indicating a state of system capable of resisting the assaults of disease. A departure from this constitutional standard of health, when the individual possesses less constitutional vigor in resisting disease, marks the other class. In these there exists a great tendency to chronic diseases, and upon the application of the ordinary causes of inflammation, or if inflammation is actually produced, a protracted train of affections of the different tissues takes place remarkable for their extreme obstinacy—tubercles form in the lungs—ophthalmia—chronic otitis—swelling of the different glands—hypertrophy of the tonsils, etc. appear in the place of the speedy restoration of the healthy action which marks the other class. Some of these affections appearing in the prominent organs, have been regarded as indicating a predominance of these organs and a classification, recognizing this predominance, has been made; but if clearly examined it will be found that the various phases of constitutional peculiarity are nothing more than a greater or less departure from the healthy standard, exhibited in the different classes of organs. The transmission from parents to their children of that peculiar and multiform state of the system which has been denominated scrofulous, constitutes the author's views of the origin of diseases of this nature, and coincides with our views of the hereditary nature of that imperfection of vital action which leads to the development of most chronic diseases.

Part First of Lugol's excellent work is devoted to the consideration of the inheritance of scrofulous diseases, and of the health of parents who beget scrofulous children. On the inheritance of scrofulous diseases, he remarks.

"The inheritance of scrofulous diseases may be recognized by two principal characters; 1st, the generality of the disease in the family; 2d, the very great mortality which it there causes. We shall study each of these characters in a special paragraph.

"§ 1.—*Generality of the disease in a family.*—The first and most prominent fact seen in the study of scrofulous diseases, is the generality of the disease in a family. This, however, does not always occur, because scrofula does not appear in all the members of a family at the same age, in the same manner, nor in the same degree, and may affect children only successively.

"At the first glance, we recognize a constitution common to all the children—a family constitution—a scrofulous constitution, which reveals the fatal predisposition with which they are affected, and in consequence of which they will be subject to scrofulous diseases. This constitution is the first sign which announces the generality of the disease in the family; the first which indicates inheritance, and that which gives us a hint of the kind of diseases with which children are threatened. Hence we shall devote a few pages to this, before treating of the other characters of the inheritance of scrofulous diseases.

"*Of Scrofulous Constitution.*—Scrofulous families are recognized by a general mark of debility, which is seen in all the children. A scrofulous constitution permits at most a negative state of health with some, and indicates a want of strength and a good organization.

"In their physical formation, these children are not symmetrical: the trunk and extremities are not developed proportionally: the head is too large: the limbs are badly adapted to a feeble body, which is too long or too short; the limbs, too, have not their proper length: the joints are generally too large.

"The median line is frequently not in the centre of the body: it seems as if its two halves are not properly joined, one being higher and more anterior than the other. This latter arrangement, a consequence of unequal development, indicates an unfavorable prognosis of those diseases which will supervene afterward. I shall cite cases proving this, which have occurred in several children of the same family.

"Not unfrequently, there is a want of union on one or several points of the median line. It is generally scrofulous subjects, who present instances of separation of the linea alba, hare-lips which are simple, or complicated with a separation of the bones of the palatine arch and the two halves of the velum palati. In some children, the chest is misshaped; the ribs are twisted; the sternum projects upward and forward, and its different component parts can be felt under the skin: the antero-posterior diameter of the thorax is greater than the transverse.

"This defective formation may change progressively between the ages of eight and twelve years. When this does not occur, we may still hope that at the period of puberty the deformity may be modified, and that the osseous frame of the chest may approach the normal state; but more frequently it continues, and thus prevents the regular development and complete expansion of the lungs, which is an unfavorable sign, for it indicates that the scrofula is deeply rooted in the system.

"Scrofulous persons are generally short in stature, but sometimes, on the contrary, very tall. These two extremes depend on the same principle, that vitality has not power sufficient to regulate the development of the organs, which are thus arrested in the commencement, or receive an unlimited degree of nutrition. The mouth is small or much too large; the teeth of the first and second dentition, but especially the latter, appear late. They are not white, but have a blackish tint, decay readily, and are very friable. The spongy tissue of the bones is too much developed, in proportion to their compact tissue and the soft parts. This state of the spongy tissue is easily recognized by the following marks, which however do not always coexist:—the malar bone is too prominent: the base of the lower jaw is too much developed, which gives the individual a peculiar rachitic appearance. The extremities of the long bones are too large: the feet and hands, which are formed principally of short and spongy bones, present, in some cases, an unnatural and ungraceful development. The pubis, sacrum, and ischia, are in a state of hypertrophy, which is much to be dreaded in females, as it causes afterward difficult labor (2d part, pathological causes). The body of the long bones is usually small, and their compact tissue is very thin.

"The growth sometimes presents the most opposite extremes. I have frequently seen, in my wards at the hospital St. Louis, individuals eighteen or twenty years old, who are not more than 1 metre* 33 centimetres high. I have seen one twenty years old, who was only 1 metre 20 centimetres tall. He did not grow at all, but rather wasted away during the four years passed in the ward St. John, where he died in 1836. I had a drawing made of him in 1832, one third of the natural dimensions, by M. Chazal, painter to the Museum of Natural History, and his picture, which was an admirable likeness, measured only 40 centimetres in height. I placed his skeleton in the Anatomical Museum, where it was pronounced by my friend and colleague, M. Serres, among the most curious specimens in the collection.

---

* The metre is three French feet.

"I have often compared, in the presence of my class, this patient and several others in whom the growth was much retarded, but in a less degree than the instance cited, with other scrofulous patients of the same age, who measured 1 metre and 65 and 66 centimetres in height: some were even taller, and one named Collet, measured 1 metre and 95 centimetres in height. But in these tall patients, the trunk and limbs were no more symmetrical, nor in better proportion, than those whose growth had been arrested. The head in them was generally too small: their carriage was extremely bad, and they were deficient in energy.

"The digestive apparatus is very weak, and hence all the assimilating functions are deranged. Many scrofulous children are never hungry; and there is so much anorexia, that they do not consume the fourth part of what is generally eaten at their age. This want of appetite comes from the inertness of the digestive organs, which I attribute to a catarrhal state, of the same nature as ophthalmia, coryza, otitis, bronchitis, leucorrhœa, &c. This state is very common in scrofulous patients, and becomes chronic in the alimentary passages of some of them.

"Those children, who eat but little in consequence of their debility, become more and more feeble because they do not eat. No improvement can be expected, until the functions of the alimentary canal are performed better; for this, a necessity for food must be felt, and digestion be properly performed. The absence of appetite is one of the symptoms which must first be remedied; for it cannot continue a long time without becoming a very active cause of sickness, as it arrests in its source the development of the organs, which being already weak, must become still more feeble, when the materials for their growth are not supplied. I treat this state of the alimentary canal, by administering purgatives several days in succession; rhubarb, calomel, and jalap, in equal parts; seidlitz water, or castor oil. I then use preparations of iodine, which possess, in a great degree, the power of giving an appetite, after the patient has been thoroughly purged.

"I am now attending a family of five children, four girls and a boy, all of whom have an irregular appetite, and are generally very feeble. None of these children are of the usual size. The eldest girl is sixteen years and a half old; is only 1 metre and 45 centimetres high, and has not yet menstruated. In these five children, the teeth are black, and they all have red spots on the face.

"In other and rare cases, there is a voracious appetite, which is of no use, and the growth of these children is nearly as much retarded as where they eat but little.

"I know a family composed of four children, who have tubercles, in whom the digestive passages are very active, and yet no one has a moderate degree of plumpness. This state of the digestive canal is generally attended with habitual paleness of the face, which at this period of life is often a forerunner of pulmonary tubercles. The eyes are suffused; the breath is offensive; children have itching of the nose, which leads to the suspicion of worms in the alimentary canal, which, however, are not always found in the alvine evacuations. The predisposition seems to exist without having produced its effects. Thus in many tuberculous persons tubercles have not yet appeared.

"The excrementitious functions are irregular. Sometimes there is constipation, which perhaps depends on the dryness of the mucous surfaces, and the feeble peristaltic motion of the intestines; sometimes a diarrhœa of bad character is complicated with this constipation. It might be called a transient blenorrhœa of the intestinal canal, similar to that often seen in the eyes, nose, ears, &c. However copious and durable this intestinal blenorrhœa may be, we ought not to be surprised if the mucous surface of the intestines secretes proportionally as much mucus as the conjunctiva or the pituitary membrane in certain cases of ophthalmia and scrofulous coryza. The dejections contain sometimes badly digested food, because in this catarrhal state of the intestinal mucous membrane, the digestion of the food must be very imperfect.

"The skin and cellular tissue are extremely thin, or in a state of peculiar hypertrophy, indurated hypertrophy. Many scrofulous subjects have a dry skin covered with papulæ of lichen and prurigo: there is a general want of transpira-

tion, although partial sweating of the feet, hands, and axillæ, often occur. These sweats generally have a marked acid smell.

"The physiognomy seems prematurely old in infancy, and at a later period the contrary is true; the trunk and the limbs are then younger than the individual; that is, they have not the development nor the force generally seen in healthy persons of the same age.

"Persons of this constitution have frequently an unconquerable apathy and indifference. We see many scrofulous children who must be led out to walk, because they are extremely averse to motion. In one case particularly, this aversion to move was so great, that a young lady was with difficulty induced to stroll in a garden which was on a level with an apartment occupied by her family.

"Mothers often complain that their children, and especially young girls, have a bad carriage: they permit their head to fall forward, as if they could not support its weight; that they are indifferent, and always wish to sit. These young girls cannot do otherwise. They stand badly, because they are not strong enough; because the muscles which support the vertebral column are wasted; because the muscular system is not sufficiently developed, and the fibre in these young girls generally wants the degree of tone necessary to keep the body in a proper equilibrium. To these causes must be added the want of harmony between the parts of the skeleton which we have mentioned above, and which is most generally only the rudimentary state of much greater deformities which supervene on the approach of puberty—often before this age, and rarely after it.

"Children of scrofulous constitution often experience a spontaneous degree of lassitude, which is increased, rather than diminished by repose. Some know not what to do with their limbs in bed; and the repose of the bed fatigues more than it refreshes, and they are always more tired in the morning than in the middle of the day.

"I have known many children affected with catarrhal scrofula, who for many months had taken no exercise except to go from a bed to a sofa. This apathy is one of the worst signs of a scrofulous constitution; one of those which become a cause of the progress of this constitution. Hence it should be treated particularly by bodily exercises, proportional to the effects produced by the indifference in which the children have been brought up. I have observed the same thing in the course of most scrofulous diseases, and generally the patients are not refreshed by sleep at night. This phenomenon had already been remarked in those affected with pulmonary tubercles, who suffered more during the night than in the day.

"The swelling of the upper lip is also more marked in the morning than during the day: in some young girls, the swelling is not manifest, except for a few hours after rising."

The remarks on the scrofulous countenance exhibit a great accuracy of observation. He places less reliance on it than is generally done by authors, judiciously remarking that it is only present where scrofula is seated principally if not exclusively in the face.

"It is the cutaneous, cellular, catarrhal scrofula of the face: there is hypertrophy of the lips, the alæ of the nose, cheeks, eyelids, and their loose edges; lobules of the ears, and of one or more of these parts, but most generally of the middle portion of the upper lip. The subjacent cellular tissue participates in this state of indurated hypertrophy, which disfigures the countenance very much. These partial indurations are very significant: they are constantly connected with a predisposition to tubercle.

"I have seen tubercular disease of the lungs commence by the enlargement of the features of the face, but particularly by that of the upper lip. When this hypertrophy supervenes, and the countenance loses its regularity, the body is deranged internally: the sick grow thin, and lose their strength before the appetite begins to diminish, and even before there is cough.

"I have known this swelling of the upper lip appear for the first time at the usual age of puberty, and even some years afterward, and thus bind itself to the temperament of a family of children, who were considered safe from the attack of scrofula.

"I must here only point out the partial indurations of the face, and not describe them particularly, for this would require us to advance too much with the diagnosis, which we have been already compelled several times to begin.

"This indurated hypertrophy of the skin, and subjacent cellular tissue, is generally attended with a catarrhal state of the mucous surfaces, which may be habitual and but slightly marked for many years. Authors have termed this complication, the *scrofulous countenance.*

"This state of the face is not noticed in all cases of scrofula, but, on the contrary, is very rare. We never have seen but a few cases of it at a time, and we have often mentioned to our pupils its entire absence in a population of 100 scrofulous persons, in the hospital St. Louis.

"To return to the scrofulous countenance: let us now speak of the embonpoint which has been ascribed too generally to scrofulous subjects, and to females more particularly than to males.

"On the subject of this embonpoint, we shall make the same remarks as those already presented in regard to the scrofulous countenance of writers. We say that this embonpoint is not common to scrofulous persons, and that when it exists, we always notice some fatal coincidents which reveal its character.

"Females of this complexion are of the common height: their skin is white and red: their eyes a little moist, and the transparent cornea slightly bluish: they are plump, round, and have a fresh appearance. This complexion in early youth gives a brilliancy, an appearance of beauty, which the world erroneously regards as real, and as indicating a good constitution. But to the observing physician, this state of health is far from being satisfactory; for this ephemeral beauty so much admired, is only the scrofulous predisposition strongly marked on the skin and cellular tissue of the body. This state is the certain forerunner of scrofulous diseases, which will supervene spontaneously in a longer or shorter period. The medical man makes predictions which generally are not understood, and which sometimes displease the parents: unfortunately, they are realized too early by the young females and their children.

"In fact, however beautiful this complexion may appear, still it presents the want of harmony which we have already mentioned. These appearances of health form a contrast with some of the following signs which belong to scrofula:—the pupil is too much dilated: there is a slight discharge from the eye, and matter on the eyelids: an habitual coryza: the teeth are white, but too long and compact; they are frequently black and carious: there are partial sweats of a penetrating odor: the hair is scanty, and badly nourished; it is too dry or too oily: there is constant leucorrhœa, which in some cases is very profuse: there is frequently dysmenorrhœa, sometimes amenorrhœa, and menstruation is rarely regular. Women who are very fat often have no appetite, and take but little nourishment; very frequently females of this complexion are subject to head-aches, which cause them much suffering. Finally, this embonpoint does not long resist the progress of the scrofulous habit, and it is most frequently replaced by a meagerness which produces deep and permanent wrinkles in females who are yet young."

We have seen tubercular affection of the lungs first manifest itself, as remarked by our author, by an enlargement of the upper lip, remarkably alternating with the pulmonary affection; the latter always becoming relieved in proportion as the hypertrophy of the lip increased.

In this part of the subject the inheritance of scrofulous diseases is carefully studied, and many facts are presented in regard to the generality of scrofula in the family, and to the very great mortality of children which is its inevitable consequence. The examination also of the inheritance of scrofulous diseases, as observed in the different branches of a

common origin, is next in order, with a great number of highly interesting facts in illustration, as are also the effects of different marriages. The mortality of children of scrofulous habit forms a most interesting portion of this branch of the subject. The following are his concluding remarks upon this subject.

"In this statement of deaths, we must not forget still-born children. Abortions are very common in females who have scrofulous children, either on account of their own personal health or that of their husbands. (Part 2, *Pathological causes.*) At least one fourth of the scrofulous children die during fœtal life. I regard these abortions as the highest and most intense degree of hereditary disease. In fact, it is evident that the fœtus who dies scrofulous is much more affected than the child who dies a longer or shorter time after birth.

"Scrofula is then the most active principle of the destruction of the human race. No other disease cuts off so many and as young victims, and there is no cause which abridges human life so much.

"Buffon says, that the nearer death approaches, the slower is its step. This general remark has no other reason than the original good health of the individuals. Hence one does not grow old unless one is well organized; unless the body be free from hereditary diseases: an advanced age, therefore, is the sign of a healthy organization, which may be prolonged during the whole course of human existence."

The health of parents who beget scrofulous children is next considered, under which division is studied previously the original health of parents. Scrofulous children are born from scrofulous parents, from such as are affected with pulmonary tubercles, and from such as do not exhibit the existing marks of the disease, but who nevertheless transmit the affection to their offspring. In the last mentioned instance the hereditary nature of the affection is shown by various instances proving its existence in the immediate progenitors in a latent state. On the transmission of scrofula by parents affected with pulmonary tubercles, the author remarks,

"Practitioners still make so great a difference between scrofula and tubercle, that they treat these diseases as if independent of each other. A patient affected with white swelling, is treated without attaching any importance to the death of a brother from the development of pulmonary tubercles. On the other hand, they notice the progressive course of tubercles in the lungs, without establishing any relation between this latter disease and instances of white swelling which have existed, or which then exist in the family. The time is not remote, I think, when the relation of these diseases will be generally admitted, and put beyond the reach of all controversy.

"We have seen that scrofula most frequently has a tuberculous origin, and that scrofulous families lose many of their children by diseases of the chest. We shall now see that scrofulous patients are affected with pulmonary tubercles like those of their brethren, in whom scrofula manifests itself only in the respiratory organs."

The acquired health of parents is next brought under notice, and the effects of syphilitic taint, of venereal indulgences, precocious marriages, extreme age of parents, the disproportion between their ages, feeble, epileptic, paralytic or maniacal parents, are all considered, with many forcible and interesting instances.

In the further consideration of the hereditary nature of scrofulous diseases the transmission in these cases where the cause is not sufficiently marked in the original or accidental health of the parents, the complications of hereditary causes with each other, the influence of marriages and

the health of females, are all duly considered, and throw light upon many obscure points.

The Second Part of this work is devoted to the pathological causes of scrofula; this is introduced by some judicious remarks which convey in a condensed form the views of the author upon this interesting portion of his subject.

In Part Third are considered the external causes of scrofula. Endemic influence occupies much of the attention of our author, whose views must meet the decided approbation of every candid reader.

The endemic cause, Lugol considers as possessing no peculiar evident quality, and very successfully proves that humidity is not a cause of scrofula. We cannot refrain from quoting a passage upon this subject, which has recently received some illustrations in our own country.

"Finally, several dissertations which have been published on the antagonism between marshy fevers and tubercles, also serve to prove that humidity does not engender the tuberculous state.

"From our remarks, it is evident, I think, that humidity has been wrongly admitted as the only cause of this kind of endemia; that scrofula exists endemically in very extensive provinces, where there is no humidity, and which are even dry; that endemic scrofula is not observed in very damp places; that this last disease does not affect equally all the inhabitants of a country who live under common influences; and finally, that the cause of endemic scrofula, whatever it may be, has no particular endemic quality."

Scrofulous endemia produced by the importation of scrofula, the antiphlogistic treatment of venereal diseases as a cause, and scrofulous endemia from defect in the crossing of races, form a very interesting part of the chapter devoted to endemic scrofula.

In the succeeding chapter, the influence of climate and seasons on the progress of scrofulous diseases is duly studied, with some original views which could only be the result of close and repeated observations.

The occasional causes of scrofula are next considered; the following are his introductory remarks:

"The doctrine that certain external occasional causes may produce scrofula, has already been contested implicitly by our remarks on inheritance and on endemia.

"We cannot expect to find in a book of this character, a very long enumeration of the occasional causes which authors have copied from each other, without ever ascertaining if the existence of these causes rested on experience. Most of these causes are denied: those which are admitted, have only led to error as to the nature of scrofulous diseases: these errors are rooted so deeply in the field of science, that it is very difficult if not impossible to eradicate them. It is desirable, however, that the occasional causes should be estimated at their true value, and that it should finally be admitted that all of them united cannot render an originally healthy man scrofulous. With this view, we shall proceed to analyze the principal external causes mentioned by authors."

After some remarks upon the spontaneous invasion of scrofula, the author considers the influence of vaccinia, onanism, menstruation, contagiousness of scrofula, the inoculation of scrofulous pus, and successfully refutes some prevalent and erroneous ideas as to the effects of these agents in the development of the disease.

We cannot let this part of the subject pass without referring to a remarkable instance of the effects of vaccinia artificially inducing diseased action in

a scrofulous habit, and we doubt not that many practitioners will recollect cases of a similar kind. We vaccinated two children of different families with virus from the same vesicle. One of these children exhibited the vaccine disease perfect in all its stages, leaving a perfect and well marked cicatrix. The other was affected with a spreading ulcer that did not heal in three months, while a pustular eruption appeared in different parts of the body.

This eruption affecting the scalp, produced that obstinate disease known as tinea capitis; which partially disappeared upon the use of iodine, but which re-appeared when teething commenced. These results were of course attributed by the parents to the use of "bad matter," but the true cause was evident in the tendency to scrofulous disease inherited from both parents. The father has a small polypus in the nose, and a tumor has lately appeared on the inside of the lower lip of the size of a pea, of a purple color, which gives him great uneasiness as his grandfather had a cancerous tumor taken from his lip; his numerous decayed teeth also exhibit the signs of a great degree of physical derangement. One of his sisters has a chronic ophthalmia, and another presents a general lymphatic condition of the neck and lips, giving the whole face a thick and dull aspect. The mother has a curvature of the spine, and a considerable distortion of the chest, one side being much more depressed than the opposite. The deformity thus produced in the different elevations of the shoulders is only obviated by a free use of padding.

The supposed influence of other occasional causes, as moisture, regimen of prisons, camps, ships, and the recapitulation of the doctrines in the latter part of the work, completes the original work of Mr. Lugol.

Dr. Doane has added a valuable appendix upon the different preparations of iodine which have been found beneficial in this disease.

With reference to the translation, we need not say that it is faithfully and well done; Dr. Doane's reputation is a sufficient guarantee for its accuracy, even were the work not compared with the original. The mechanical execution of the work reflects great credit upon the enterprising publishers.

ART. XV.—*A Practical Treatise on the Diseases peculiar to Women, illustrated by cases derived from Hospital and Private Practice.* By SAMUEL ASHWELL, M.D., Member of the Royal College of Physicians, London, &c.; 1st Am. Ed. with notes by Paul B. Goddard, M.D., Lecturer on Anatomy. Phil.: Lea & Blanchard, 1845. 8vo. pp. 520.

WHEN a writer puts forth a practical work on any branch of medicine, we naturally inquire, what opportunities has he enjoyed, what are his claims, in assuming to instruct the profession in the department of which he treats? Judged by this test, Dr. Ashwell assumes a very commanding position. For nearly twenty years he has been in attendance upon *Guy's Hospital* of London, with its extensive lying-in-charity, and has

besides enjoyed a very extensive private and consultation practice in female diseases; so that if any one has a right to speak *ex cathedrâ*, on this subject, he is fairly entitled to claim such prerogative. But without claiming any undue deference for the opinions and practice set forth in this admirable treatise on the above grounds alone, we think that the truth of the principles and treatment laid down fully entitle it to the confidence and support of the profession. The work is, indeed, an original one, containing little besides the results of the author's own practice and observation, conveyed in a plain and perspicuous style, and forming a very safe and efficient guide to the elucidation and curative treatment of the peculiar diseases of females. The value of the work is also enhanced by many formulæ of remedies appended to the various chapters.

We are sorry that Dr. Goddard has allowed his name to be placed on the title page as editor. His additions neither add to the value of the work nor do himself any credit. They amount to less than *seventy lines*, besides one extract of a couple of pages from the London Lancet. If editing like this is not a farce and calculated to bring disgrace upon the very name, we hardly know what is. No man has a right to mount behind the gallant rider of some noble Pegasus, or Bucephalus, without so much as saying "by your leave, sir," and thus like a parasite, unable to walk or even stand alone, be wafted onwards to the desired goal, with no other apparent recommendation than the possession of the usual quantum of *vis inertiæ*. A feat like this, in the present case, is less excusable, as the editor himself is said to possess speed and bottom of no ordinary kind. There are many European medical works appearing from time to time, that are well worthy of publication here, but need additions to adapt them to the wants of the profession, and such books should be edited, and such *only*. An editor should feel that he has reputation and character at stake, and that if he does nothing to increase the value of a work, he is certain to give rise to a suspicion that he has other objects in view than to benefit the profession, by enhancing the merits of his publication. To edit a work well, requires knowledge, talent, industry and labor, and where neither of these are displayed it is a very satisfactory sign, either that the work did not need editing, or that the editor lacked the necessary qualifications. The former, we hold to be the true alternative, in the present instance. The work of Dr. Ashwell is very complete in itself, and can hardly be improved by annotations from another hand.

The astuteness and acumen of Philadelphia lawyers have become proverbial. Philadelphia editors seem doomed to equal notoriety, but for somewhat opposite qualities. As *Lucus* is said to be derived *a non lucendo*, so our Pennsylvania brethren seem to have got a notion, that the word *edit* from the Latin *edo*, is always to be understood with a negative prefix —or they may derive it from that other *edo*, "to eat," "to devour,"— either with reference to the tangible avails derived from said process, or to the havoc made with foreign authors, who are swallowed entire, as a boa would swallow a rabbit.

ART. XVI.—*A Dictionary of Practical Medicine; comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, &c.* By JAMES COPLAND, M. D., F. R. S. Edited, with additions, by CHARLES A. LEE, M. D. Nos. III. & IV.—pp. 288.

THIS important work "presents in an abstract and condensed form, the opinions and practice of the most experienced writers, British and Foreign, so digested and wrought up with the results of the author's practice, that the student and young practitioner will not be bewildered in the diversity of the opinions and facts adduced for their instruction, but guided in the difficult path in which they have entered, and enabled, with a due exercise of their powers of observation and discrimination, to arrive at just conclusions and successful practical results, besides furnishing the experienced practitioner with a diversified range of opinions, methods of cure, and authorities, which his matured judgment will enable him to apply in an appropriate manner to particular cases."

"This design," continues the Editor of the "*American Journal of the Medical Sciences*," "has thus far been executed in so masterly a manner as to have obtained general commendation, and when completed, will be a work, which the extensive and laborious research which it displays; the ability with which the materials are digested and condensed; the deep reflection and excellent judgment conspicuously manifested, render an extraordinary monument of individual industry. The American Editor seems disposed to rival the author in industry, his additions to the part before us being very numerous, and adding greatly to its value, particularly by supplying the observations and experience of American physicians which have been overlooked in the original, and enriching the bibliography, with references to our own literature," &c.

These remarks of the Philadelphia Editor render any comments from us unnecessary. We are happy to learn that the work will go on, and be completed within a reasonable time; indeed, we have no doubt, at a much earlier period, than the "*American Cyclopedia of Practical Medicine and Surgery*," to be completed in forty numbers; the first volume of which was published in 1834, the second a year or two afterwards, and the third has not yet come to light. As the essays are, however, complete in themselves, should the author die or his courage give out, before he has completed the whole, and should there be found no one qualified or willing to go on with the work, it may be bound and sent out with a new title page, under the imposing title of "SELECT ESSAYS ON MEDICAL SUBJECTS," and in this form possibly find more purchasers than it would have done under its original Dictionary Title.

ART. XVII.—*Observations on the Structure and Diseases of the Testis and Thymus Gland, with numerous plates.* By Sir ASTLEY COOPER, Bart., F.R.S. Edited by Bransby B. Cooper, F.R.S.; Surgeon of Guy's Hospital; Lecturer on Anatomy, etc. Phil.: Lea & Blanchard, royal octavo, pp. 247 & 37.

WE hardly know which most to admire in this work, the value of the

knowledge communicated,—the *matter*—or the *manner* in which it is brought before the public. It is fitting that the thoughts, the results of the experience of such a man as Sir Astley Cooper should be displayed in a handsome dress, and we deem it fortunate for the profession that there are publishers in these United States, who are influenced by principles of taste and propriety, as well as by those of a more interested nature.

We here have the two great works of Cooper, unmutilated and *unedited*, in one volume with the original illustrations reduced, with the most scrupulous care to exactness, so that the work may correspond with the same publishers' edition of the author's work on Hernia.

Our readers need not be told that this work has enjoyed the very highest reputation from the time of its first appearance in England, now more than ten years ago, and has been for some time out of print. We hope it may have a circulation extensive with its merits, so that the worthy publishers will feel justified in continuing the works of the author in the same beautiful style. The illustrations are numerous and finely executed, and altogether the volume is an ornament to the American Press.

ART. XVIII.—*A Practical Treatise on the Diseases of the Respiratory Organs, including Diseases of the Larynx, Trachea, Lungs, and Pleura.* By CHARLES J. B. WILLIAMS, M.D., F.R.S., etc., with numerous additions and notes, by Meredith Clymer, M.D., Physician to the Philadelphia Hospital, etc., with wood-cut illustrations. Phil.: Lea & Blanchard, 1845. 8vo. pp. 508.

THIS work embodies the Essay originally contributed by Dr. Williams to "Tweedie's Library of Practical Medicine;" to which large additions have been made from Dr. W.'s late lectures, as published in the London "Medical Times," to which the American editor has liberally contributed from the results of his abundant experience, gathered from long attendance upon the hospitals of Europe and this country, as well as an extensive private practice; altogether making up the most complete and satisfactory work that has yet appeared on Pulmonary Diseases. The editor has drawn largely from the works of Louis, Grisolle, Piorry, Rilliet and Barthez, Valleix, etc., embodying also the very valuable synoptical tabular statements from the manual of Dr. Walsh, entitled "The Physical Diagnosis of Diseases of the Lungs." Phil. 1843.

The wood-cuts, illustrating the physical examination of the chest, are admirably executed, and the whole mechanical execution of the work does much credit to the publishers. This work is undoubtedly destined to take precedence of all others yet published on the "Respiratory Organs," and as a text book for teachers and students, no better, in the present state of the science, is to be expected.

ART. XIX.—*Remarks on the Influence of Mental Excitement upon Health.* By A. BRIGHAM, M.D., Superintendent and Physician of the State Lunatic Asylum, Utica, N. Y. Third edition. Phil.: 1845. 12mo. pp. 204.

THIS is the well-known Treatise published by Dr. Brigham in 1832, and which has had an extensive circulation both in this country and Europe. No work of similar size, perhaps, has done more good in correcting the erroneous views, so generally entertained a few years ago, in relation to the proper education of the young. It was the first American work, we believe, that called the particular attention of parents, guardians and teachers, to the baneful influence of excessive mental cultivation in childhood and early youth. A few years since the principle was hardly imagined that the brain was the organ of the mind; and although it was a matter of common remark, that precocious children died young, yet strange to say, the danger of over-taxing the brain by such early excess of exertion, was almost entirely lost sight of, and this delicate organ was stimulated and goaded on by hot-house culture, till the explosion of disease extinguished at the same time the brilliant hopes of the parent and the life of the child.

This book ought to be studied by every parent, and every teacher in the land; for notwithstanding the vast improvement that has taken place in modes of education in this country, within a few years, the reform has been but partial, and children are still sacrificed in hecatombs, in order to sustain the reputation of boarding-school teachers, and turn out specimens of youthful "prodigies." Let them ponder upon the fact that the bright intellect displayed by highly gifted children is, in most cases, the result of disease, or of a state of brain closely bordering thereon, and that such individuals, if they live, generally turn out very ordinary adults.

ART. XX.—*The Principles of Surgery.* By JAMES MILLER, F.R.S., E.F.R., C.S.E., Professor of Surgery in the University of Edinburgh, Surgeon to the Royal Infirmary, &c. &c. Philadelphia: Lea & Blanchard. 1845. 8vo., pp. 518.

THIS is one of the best expositions of the principles of modern surgery that has ever fallen under our notice. It exhibits, within a reasonable compass, a condensed view of the principles of the healing art, combining great simplicity of arrangement, and plainness of illustration, with soundness of doctrine, thus furnishing an admirable compend for the use of the student as well as the practitioner.

It is prefaced by the well known historical sketch of surgery, as prepared by the author for the last edition of the Encyclopædia Britannica, occupying twenty-eight pages; and although necessarily concise, it embodies the principal facts connected with the progress of this department of the science.

The arrangement strikes us as peculiarly happy. SECTION 1st, treats of *Elementary Disease*, under which we have six chapters—I.

Perverted Action of the Blood Vessels, embracing inflammation and congestion: II. *Perverted Action of the Nerves*, embracing irritation (local and constitutional), and the shock of injury: III. *Perverted Action of the Absorbents*, embracing atrophy, interstitial absorption, and continuous absorption: IV. *Suppuration*, embracing acute abscess, chronic abscess, diffuse abscess, scrofula: V. *Ulceration*, embracing granulation, cicatrization, ulcers: VI. *Mortification*. SECTION II. treats of *Perverted Vascular Action in certain Tissues*—as I. Perverted Vascular Action in the Integuments: II. In Bone: III. Diseases of Joints: IV. Of Arteries: V. Of Veins: VI. Of Hemorrhage: VII. Of the Sympathies: VIII. Of Nerves. SECTION III. treats of *Tumors*. SECTION IV. I. Of *Injuries:* II. *Burns and Scalds:* III. The *Effects of Cold:* IV. Of *Fracture:* VI. *Dislocation:* VII. Of *Sprain and Rupture of Muscle and Tendon:* VIII. Of *Bruise*.

No mention is made of the various *plastic* operations; for the fullest account of which yet published, the reader will have to consult Drs. Townsend and Mott's translation of Velpeau's Operative Surgery, just issued by H. G. Langley, New York.

We commend this work, with the greatest confidence, to the profession, as an excellent synopsis of the principles of surgery, which every practitioner would do well to place in his library.

ART. XXI.—*The Retrospect of Practical Medicine and Surgery, being a half-yearly journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences.* Edited by W. BRAITHWAITE, Surgeon, &c. No. X. July to January, 1844. American edition. New York: Daniel Adee, 107 Fulton street. 1845. 8vo., pp. 231.

THIS is one of the largest and most valuable numbers of the "Retrospect" yet published. The plan and execution of the work are too well known to need any praise at our hands. If the editor, however, would be rather more liberal in his extracts from American medical journals, he would give perhaps better satisfaction to his readers in this country. The present number embraces but six notices from this side of the Atlantic; one of transplantation of the Cornea, by Dr. R. S. Kissam, and one of treatment of Fractures of the Clavicle, by Dr. A. L. Cox, were originally published in this journal. We presume the editor is not in the habit of seeing the Boston Medical and Surgical Journal, the Medical Examiner, the New Orleans Medical Journal, the Western Lancet, the Western Journal of Medicine and Surgery, the Southern Medical and Surgical Journal, the Illinois Medical and Surgical Journal, the Montreal Journal, &c. If it is intended to make the "Retrospect" what it pretends to be, "*a view of every discovery and practical improvement in the medical sciences*," we would suggest the propriety of having access to the publications, where these improvements and discoveries are likely to be found. As it is, however, the "Retrospect" is well worthy the patronage and

support of the profession; although it contains few, if any, notices of what is done in France, Germany, or any of the countries of Europe, except Great Britain. A truer title of the work, in its present shape, would be "A Retrospect of some of the more important improvements and suggestions in Practical Medicine and Surgery, as embodied in the principal medical periodicals of Great Britain, with occasional notices of medical improvements and discoveries in the United States, and other countries."

To show that our criticism is founded in truth, we quote the authorities from which the present number is made up. The Medico-Chirurgical Review is quoted sixteen times; the British and Foreign Medical Review, seven times; the Medical Times, fourteen times; the Provincial Medical Journal, sixteen times; the Medical Gazette, twenty-five times; the Lancet, thirty-five times; the American Journal of Medical Sciences, four times; the London and Edinburgh Journal of Medical Science, sixteen times; the Northern Journal of Medicine, ten times; Guy's Hospital Reports, once; the Edinburgh Medical and Surgical Journal, six times; the Dublin Journal of Medical Science, eight times; the Dublin Medical Press, once; the Journal de Chemie Medicale, once; the Pharm. Transactions, four times, and the New York Journal of Medicine, twice.

Art. XXII.—*The Chemistry of Vegetable and Animal Physiology.* By Dr. G. T. Mulder, Professor of Chemistry in the University of Utrecht. Translated from the Dutch, by P. F. H. Fromberg; with an Introduction, by Professor J. F. W. Johnston, F.R.S.: with Notes, &c., by B. Silliman, Jr. Vol. 1; Part 1; No. 1. New York: Wiley & Putnam. 1845.

This work will be extensively sought for, read, and pondered. The author enjoys a reputation in Europe, as a scientific chemist, second to that of no other living chemist, not even excepting Liebig or Dumas; and whatever falls from his pen is stamped with the marks of originality and genius. In point of talent and power of analysis, this work of Mulder's must take precedence of the works of Liebig even, which are too often disfigured by hypothetical speculations on points connected with physiology and pathology, however high they may rank as standard authorities on analytic chemistry. As we shall hereafter make it a subject for an analytical review, we shall forbear from further comments at this time.

Art. XXIII.—*A Lecture on the Physiology of Digestion, Introductory to a course of Lectures on the Institutes of Medicine and Materia Medica.*—Delivered before the Medical Class of the University of the city of New York, at the Session of 1844-5; by Martyn Paine, A. M., M.D., Professor in the University of the City of New York, &c. &c. Fourth edition. Printed for the Medical Class, 1844-5.

It does not fall within the scope of our objects, to give extended no-

tices of Introductory Medical Lectures, else we should be tempted to quote pretty largely from the one above noticed. It is a masterly exposé of the absurdities and contradictions of those writers, who advocate exclusively the chemical doctrines of life, or chemico-physiology, and who deny, if not the existence, at least the influence of vitality upon the animal organism. These efforts of some of the philosophers of the day, to confound the science of life with the science of chemistry, need some such curbing restraints as are set forth in this lecture. The writer brings his battery of argument and wit to bear upon the chemical hypothesis of digestion, with a force and felicity that cannot fail of being felt by those who have fairly exposed themselves to such unchristian punishment. Whether the individuals named in the indictment will meekly submit to such castigation, and endeavor to profit by it, or plucking up a more warlike spirit, carry the war into Africa, remains to be seen. To us, who occupy neutral territory, or, as the author would say, belong to the "*in-medio-tutissimus-ibis*" *school*, such a controversy can be looked at with an impartial eye, and victory awarded, without undue bias or prejudice.

ART. XXIV.—*Vestiges of the Natural History of Creation.* New York: WILEY & PUTNAM, 12mo., pp. 291; 1845.

THIS work, recently published in England, has already passed through several editions, and is getting a wide circulation in this country. It is said to have been written by a distinguished member of the British Parliament, who is an *amateur* in scientific matters. This will account for many inaccuracies, perhaps in purely scientific and professional details, although it is written with great elegance, and an apparent comprehension of the whole subjects of Astronomy, Geology, Physiology, &c. &c.

It is a work, however, of extraordinary merit; calculated to enlarge our views, both of the visible and invisible works of creation, and furnish food for contemplation of the noblest and most gratifying kind. We have not space to enter upon an analysis of its contents, and we therefore can only advise our readers to purchase the work, for they will find themselves well rewarded by its perusal.

ART. XXV.—*Medical Topography of Brazil and Paraguay, with incidental remarks.* By G. R. B. HORNER, M.D., Surgeon, U. S. N. Phil. 1845, 8vo., pp. 296.

THIS is a very entertaining and instructive book, which the author has compiled from private and public journals kept by himself during two cruises, in the form of a diary; we should be pleased to make copious extracts, descriptive of the animal and vegetable productions of Brazil, its medical schools, hospitals, physicians, diseases, &c., did our limits per-

mit; we hope to be able to do this, however, in our next number. Dr. Horner is too well known as the author of a similar work on the climate, diseases, public institutions, &c., of the countries bordering on the Mediterranean, to need any praise at our hands. We wish that other surgeons in the U. S. Navy would follow his example, and give us the results of their observation in different quarters of the globe, for the benefit of us stay-at-home travellers; in that case, we should doubtless be better contented with our lot, and less envious of the advantages enjoyed by the surgeons of our frigates and seventy-fours. Next to visiting in person, the countries and places described by Dr. Horner, commend us to the pleasure of reading a description of them in his own words.

ART. XXVI.—*A Treatise on the Diseases and Special Hygiene of Females.* By COLOMBAT DE L'ISERE. Translated from the French, with additions, by CHARLES D. MEIGS, M.D., Prof. of Midwifery in Jefferson Medical College, &c. &c.; with wood-cut illustrations. Phil.: Lea and Blanchard. 1845. 8vo, pp. 714.

WE have received this work at too late a period to notice it as it deserves. From a hasty perusal, however, we are satisfied it is destined to take the front rank in this department of medical science. It is beyond all comparison, the most learned Treatise on the Diseases of Females, that has ever been written, there being more than one thousand distinct authorities quoted and collected by the indefatigable author. It is in fact a complete exposition of the opinions and practical methods of all the celebrated practitioners of ancient and modern times. The author has enjoyed distinguished advantages, as Resident Surgeon of the *Maison de Santé*, of the *Rue de Valois du Roule*, which is specially appropriated to the medico-chirurgical treatment of the diseases of women; and is well known in Paris as author of a memoir on Disorders of the Womb and its Appendages.

The Editor and Translator has performed his part in a manner hardly to be surpassed. The translation is faithful to the original, and yet elegant. More than one hundred pages of original matter have been incorporated in the text, constituting nearly a seventh part of the whole volume. In our next number we propose to give some account of its contents.

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *On the Reflex Function of the Brain.* By T. Laycock, M.D., Physician to the New York Dispensary, &c.—[Read at York, before the Medical Section of the British Association for the Advancement of Science, on 28th September, 1844.]

Since it has been generally acknowledged that the brain is the organ of mind, the study of its physiology or laws of action has acquired a surpassing interest, for whatever men do, in the most comprehensive sense, is connected with its functions. It is, however, as elucidating the nature and treatment of insanity, that its physiology is most interesting to the physician.

A knowledge of the laws and mode of action of this important organ can only be acquired by scientific observation and induction, and it is encouraging and pleasing to know that the multitude and variety of facts from which inductions may be made are proportionate to the difficulties to be overcome. I am not alluding to mental philosophy, but to the advances already accomplished in comparative physiology, which show us that the structure and functions of the nervous system in all animals are subject to the same laws of development and action; that a continuous and harmonious whole is formed out of the multitudinous and disjected parts; and that varied and dissimilar as they appear, each may be made to illustrate the other.

Four years have elapsed since I published my opinion, supported by such arguments as I could then state, that the brain, although the organ of consciousness, was subject to the laws of reflex action, and that in this respect it did not differ from the other ganglia of the nervous system. I was led to this opinion by the general principle, that the ganglia within the cranium being a continuation of the spinal cord, must necessarily be regulated as to their reaction on external agencies by laws identical with those governing the functions of the spinal ganglia and their analogues in the lower animals. And I was confirmed in this opinion by finding, after the investigation and collocation of known facts, that observations and arguments like those satisfactorily adduced in proof of the existence of the reflex function of the spinal ganglia, may be brought forward in proof that the cerebral ganglia have similar endowments. In the present paper I purpose to give these proofs connectedly. I must premise, however, that I entered upon my undertaking with considerable hesitation. I felt deeply the magnitude of the subject, and the important results to which an inquiry of this kind might lead. I felt, too, that in advocating the doctrine of cerebral reflex function, I was opposing the opinions of a physiologist to whom deference is eminently due. That gentleman, however, is so devoted to all questions of neurology, and so anxious, I really believe, to arrive at truth, that he, I hope, will willingly permit me to differ from him in doctrine, and give a favorable consideration to my opinions, although opposed to his own.

To render my subsequent arguments clearer, I will first give a short summary of the doctrine of reflex action, as at present received. I need scarcely state that the spinal cord in the vertebrata is a series of ganglia analogous to those of the articulata. If a centipede be divided into several parts, each segment will move on an external stimulus being applied; if it be decapitated, and the respiratory orifices on one side of the body be irritated by an acrid vapor, it will immediately flex the trunk to the opposite side; if the Geophilus electricus be cut into two pieces, each segment will live and appear vigorous for a fortnight, the caudal

portion surviving the cephalic for two or three days. Cold-blooded vertebrates display those involuntary motions very strikingly; thousands of unfortunate frogs have fallen victims to the zeal of physiologists in researches of this kind. If the brain, the organ of consciousness, be removed from a frog by decapitation, it will still attempt to escape when pinched or otherwise injured, and will perform motions, which, if the brain had not been removed, could only have been supposed to be the result of sensation and volition. Indeed it has been inferred from these facts, that the spinal cord, as well as the brain, is endowed with consciousness. It is found, however, that *segments* of the spinal cord possess a similar function. If that portion of the spinal axis of a frog which gives origin to the brachial nerves be separated both anteriorly and posteriorly from the whole cord, so as to be completely isolated, on stimulating the skin covering the forelegs, retraction of the limb irritated and similar reflex movements take place. There can be no doubt, in fact, that each ganglion constitutes the centre of a nervous arc, of which the motor and sensitive nerves in connexion with it are the two limbs. An impression is made on the peripheral termination of a sensitive nerve; this impression is transmittted to the ganglion as the central axis; there some change, the nature of which is unknown, takes place, but such, that the muscles in connexion with the motor nerves arising from the ganglion are moved. Dr. Hall has termed the sensitive, or afferent, or impression-bearing-nerve, incident excitor nerve; and the central axes form collectively the true spinal system, extending from the corpora quadrigemina to the cauda equina.

It is not necessary to reflex action that the irritation be applied exclusively to the peripheral termination of the sensitive or incident excitor nerve, although phenomena so induced, are the most strikingly and most perfectly reflex. The irritation may be applied in any portion of its course, or to the posterior grey matter of the cord (the sensory track) in which the nerve terminates, or to the anterior motor track, or to the cut end of that portion of the motor nerve still in connexion with the muscle. The track of the irritation is from the surface to the muscular fibre through the ganglia; if the continuity of nervous connexion be broken, the irritation cannot reach the muscle.

Irritations may in their origin, therefore, be either peripheral, or derived from the surface; fibrillar, or seated in the trunk of the nerve; and central, or in the axis itself. These variations as to the point from which the irritation commences are connected with variations in the phenomena, and enabled Dr. Hall to arrange excito-motory actions into classes. In hydrophobia, the irritation is a poison circulating with the blood through the central axis; the disease is therefore termed centric, and the excito-motory phenomena are of centric origin; so also the convulsions (the excito-motory phenomena) of asphyxia are centric, because they depend on the circulation of venous blood, instead of arterial, through the spinal cord. The action of the respiratory muscles in sneezing induced by irritation of the schneiderian membrane is reflex, and so with a multitude of vital acts, all admirably elucidated by the law of reflex action.

Motor phenomena, when purely reflex, are of course altogether independent of sensation, or perception, or volition, or consciousness. The mind has no part whatever in their causation or course. A person may, however, be conscious of the reflex acts, and unconscious of the irritation which causes them, as in vomiting from renal irritation, or when the legs of paraplegic patients are jerked on irritating the soles; sensation may also accompany reflex phenomena and volition modify them. Thus, ipecacuan acting on the incident excitor nerves of the stomach will produce the reflex act of vomiting accompanied with the sensation of nausea; or tartar-emetic, circulating with the blood in the medulla oblongata, will induce like phenomena, differing only in being of centric origin, while the others are peripheral. If the soles of the feet be tickled, the legs jerk involuntarily and spasmodically by reflex action, but the sensation of tickling is also perceived. In these and similar instances, volition is often unable to restrain or even to modify the reflex acts. The resulting movements are strictly involuntary. I would particularly call attention to this fact as of some importance in understanding the nature of those reflex acts which I shall adduce as being of

cerebral origin, for if any movements of this kind be shown to be strictly involuntary, they must necessarily be considered as reflex excited acts accompanied by sensation—acts which the patient is not merely mentally unwilling, but physically unable, to restrain or modify.

Another remarkable characteristic of reflex phenomena is the harmony of movement in the muscles excited into action by irritation traversing the incident excitor nerves, especially from the periphery. The object of all the purely reflex physiological acts is the conservation of the individual, or of the race. In the words of Dr. Hall, every physiological act of the reflex excito-motor power is obviously designed. If the mucous membrane or skin be irritated, the muscles combine to remove the irritation. This is seen in the two different acts of sneezing and coughing, and also in vomiting. When the tail of a decapitated tortoise is irritated, the hind feet are protruded towards the part, with the object apparently of removing the irritation; if the caudal portion of a bisected scolopendra be irritated, it is immediately erected, and the usual threatening position of the creature when irritated, is assumed. From numerous experiments, especially those of Van Deen and Stilling, it is certain, not only that these acts are independent of the will, but dependent on a special arrangement of the constituent fibrils of the spinal cord. According to Stilling, the posterior grey matter is the portion of the spinal ganglia, on and through which the incident excitor impressions impinge and are diffused; the anterior grey matter, the part in which the necessary arrangements for the harmonious action of the muscles are perfected. These facts are of importance to be remembered in defining the cerebral reflex phenomena, and indeed, in detecting the modus operandi of the encephalon as the organ of mind. I have already shown how certain strictly involuntary movements are partly reflex: here we learn how certain strictly instinctive acts may be purely reflex, even when coincident with consciousness.

Another circumstance connected with the purely reflex acts, is that their continued performance is unaccompanied by fatigue. I do not attach much importance to this circumstance, except as proving that volition is closely connected with muscular sensation, but it will have its use in elucidating reflex cerebral phenomena. This incapacity of fatigue is shown in the respiratory muscles; and in the long migratory flights which the instinct of birds compels them to take, as ingeniously suggested by Dr. Hall.

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

2.—*Mal-assimilation of the Saccharine Element—Sugar.*—The appearance of this principle in the urine is always a very formidable symptom, and from its sensible characters cannot long exist without detection. Its chemical and general qualities differ in a very striking manner from urine, in health, as might, *à priori*, be expected; it is light colored and very transparent, of a greenish or pale straw color perhaps more correctly, and on standing deposits no inconsiderable amount of organic matter. Its smell is very peculiar; according to Dr. Prout, it is that of sweet hay or milk, but it is, perhaps, more a smell, *sui generis*, which cannot be mistaken when once perceived, but which certainly is not that of new hay; it is, perhaps, as suggested by Dr. Watson, more like that of apples, or rather a musty apple chamber; the specific gravity of the urine is very considerably augmented. Some difference of opinion exists as to the proportional amount of urea in the excretion. The earlier observers would lead us to think it was nearly altogether absent, and that sugar was formed at the expense of the principles employed in the formation of urea. Chemistry, however, now tells us that such a change is not at all probable, and later experience comes to corroborate the fact, the urea existing, according to Dr. Kane, in its normal amount, in the same relative amount in the twenty-four hours, but as might be expected from the immense quantity of water present, the absolute amount in a given quantity of the excretion is diminished; the same remark applies to the various saline ingredients, the amount of sugar merely concealing these and the urea. The quantity of the

excretion voided in the twenty-four hours is often such as almost to exceed belief, much more at least than could be supplied by the amount of fluids used in the same period. About forty pints, or even more, is a not unusual modicum of this fluid to be formed in the day, and cases have even been published where seventy pints, and perhaps more, were thrown out in the twenty-four hours!

Chemical properties and modes of detection.—The sugar held in solution, in diabetic urine, may readily be obtained by evaporation, and every museum presents specimens of this unnatural product of the human economy; it differs from cane sugar, somewhat more nearly approaching that of grape sugar; it may be obtained by evaporating the urine slowly in a steam bath to half, then setting it aside for some days in shallow saucers, when a regular deposit of crystals will be formed.

From the directions given in a previous part of this essay respecting the modes of ascertaining the exact amount of solid matters from the system passed in the day, we can ascertain the immense quantity of sugar formed in the laboratory of the system; the average specific gravity of this variety of urine is about 1.040, and taking the quantity of urine passed as twenty pints, the patient will have voided the immense amount of about thirty-two ounces of solid materials in the twenty-four hours. It is quite obvious that such a drain as this on the system, otherwise enfeebled by the derangement, will bring the patient to the last degree of emaciation.

The saccharine principle in this disease would seem to be formed in the secondary assimilating process, according to Dr. Prout's views. Sugar has been eagerly sought in the blood, and it is only lately that it has been ascertained to exist in that fluid. It is to Mr. M'Gregor of Glasgow, whose able researches are before the medical public, that we owe this fact.

Having coagulated the serum of the blood by heat, he carefully dried it, next cut the dried mass into pieces, and boiled them in distilled water, and evaporated the solution to a certain point; he next added some ferment, which readily produced the usual change—the formation of alcohol.

By means of emetics he obtained the digested food from the stomachs of two men who had dined two or three hours previously. One individual was in a state of health; the other the victim of diabetes. On applying the test he found the vomited matters of the diabetic individual fermented strongly.

He next fed two individuals, one in health, the other diabetic, with beef and water, and nothing else, for some days. The contents of their stomachs were examined under similar circumstances. Those of the healthy man showed no signs of fermentation, while the contents of the stomach of the diabetic patient betrayed evident signs of fermentation.

These researches, which it would be well to repeat, as perhaps they are not of that rigidly exact kind that Mr. M'Gregor himself would wish, we hope he will prosecute. His examination of the saliva, fæces, and perspiration, is also worthy of a renewed trial, as the subject is one of intense interest.

Causes.—The causes of this melancholy affection are hidden in much obscurity; it is sometimes hereditary, and is much liable to be called into existence by intemperance, severe evacuations, excessive labor, with bad acescent diet. Distress of mind and anxiety are also among the sad catalogue of causes of a predisposing kind; and exposure to cold, the fertile source of so many urinary derangements, is perhaps not less efficient in sometimes lighting the train that has been laid by other causes.

Treatment.—Here we would fain put an end to doubt, and lay down strict rules for the curing of this sad affection, but we fear uncertainty even here dogs our pen. Dr. Prout, our greatest authority, and to whom the profession owe a meed of gratitude which they can scarcely repay, tells us that he has known two, perhaps only one case of this malady, cured, in his vast experience. Apparent cures sometimes do take place, but they are not to mislead. At the same time, in the apposite words of Dr. Watson, "it is better to keep a man on the edge of a precipice, if you cannot pluck him away from it, than to let him fall over," and many patients are kept in this predicament of dangerous safety.

There are three objects to be kept in view in the treatment of diabetes, according to the able remarks of the same eminent physician :—

1st. To restore the defective power of the digestive apparatus.

2ndly. To cut off, or restrict as much as possible, the supply of saccharine matter from without.

3rdly. To mitigate or remove the most distressing symptoms.

If we perhaps now say that the first and second indications are to be affected by a rigid adherence to animal diet, with occasional use of cruciferous vegetables, and that the third is to be achieved by a free use of opium, we shall say all that is really useful.

Creosote has been lately tried—indeed we have tried it ourselves; but, like every other much praised remedy, we fear its pretensions as a means of cure are too high. The proper use of aperients—castor oil, rhubarb, aloes, and senna, will avail in some stages of the disease; but everything in this way must be left to the discretion of the well-educated practitioner.

—

3. *Treatment of Erysipelas with Ointment of Nitrate of Silver.*—M. Jobert employs this remedy as follows :—He surrounds the erysipelatous surface with nitrate of silver ointment, and the inflammation soon disappears. The parts selected are anointed with a small portion of the ointment, at distances of a few centimetres, each spot being the size of a dollar, and these covered with blotting paper. A simple eruption results, but never an eschar. The ointment is prepared of three degrees of strength; the first contains 4 parts of the salt, the second 8, and the third 12 to 30 parts of lard.—*Annales de Thérapeutique.*

—

4. *On the Administration of Purgatives by the Endermic Method.*—In many acute and chronic diseases, intense constipation exists; purgatives given are immediately rejected, and enemas cannot penetrate, whilst manual operations are useless when the fæces are contained in the colon. In these cases, Dr. Salgues proposes sprinkling different purgative powders on the skin, deprived of its epidermis by means of a blister, and quotes several cases, in which evacuations were thus obtained. The conclusions to which he has been led by experience are: that in many cases the practitioner may have recourse to purgatives by the endermic method, to overcome constipation, which may give rise to serious, if not fatal, accidents; that colocynth is more powerful, and ought to be preferred (dose from grs. v. to grs. x.); aloes is not so efficacious (dose from grs. viij. to grs. xv.); that when the purgative does not produce the evacuation of the retained fæces, it may cause irritation, or hæmorrhages of the stomach or intestines, and sometimes even an excitation of the whole system; that, as by this method only drastic purgatives can be employed, they are counter-indicated whenever any latent or ardent phlegmasia exists; that they must be discontinued when their application is not followed by evacuations; that when the purgative does not cause the symptom, against which it is directed, to yield, it acts as a perturbator, and if it has not an advantageous action on the primitive disease, it may produce serious accidents; consequently, the abdominial organs must be attentively examined ere it is prescribed.—*Revue Medicale de Dijon.*

—

5. *Depuration of the Blood*—Dr. Barlow, in a paper, read before the Physical Society of Guy's, states that he conceives the depuration of the blood to be wholly effected by the two-fold agency of air and water. The atmospheric air acting through the medium of the pulmonary circulation, removes, in the form of carbonic acid, the carbon which has been formed in the capillaries of the aortic circulation, and which would act as a poison if returned to the left side of the heart, and again transmitted through the system. The water acts through the medium of the portal circulation, by the capillaries of which it is taken up from the stomach and small intestine, and is employed for the purpose of holding in solution the solid contents of the bile, the urine, and the perspiration, preparatory to their elimination by their respective secreting organs, and without which these solid contents cannot be separated from the body, unless they are brought to the emunctories in a state of solution. These views he supported by references to the

symptoms, pathology, and effects of remedies employed in cardiac, hepatic, and renal disease, and also to dropsical effusion in the cavity of the peritoneum, and to the symptoms and state of the blood in Asiatic cholera: Dr. Barlow dwelling particularly on the impossibility of procuring diuresis, when disease of the liver has proceeded so far as materially to obstruct the entrances of water from the small intestine into the portal circulation.

6. *Croton Oil in Dropsy.*—Dr. Fife has narrated in the *Provincial Medical Journal*, several cases of ascites, originating from or complicated with, organic lesions, in treating which he derived great benefit from the sustained exhibition of croton oil, which, he observes, possesses one very decided advantage over elaterium, that even when its extreme action is manifested, it is not followed by the depression inseparable from the effective action of the latter; but that where the greatest *vis inertiæ* has prevailed, accompanied by absolute incapacity for exertion, a sensible amelioration in these respects has followed its continued exhibition.

7. *Emplastrum Oxycroceum.*—This plaster is frequently employed by country people, in luxations, swellings, rheumatic complaints, &c. According to the original recipe, it is supposed to have consisted of seven per cent. of saffron, with galbanum, gum ammoniac, myrrh, frankincense, mastich, turpentine, pitch, colophonia, and wax. Many attempts have been made of late to simplify the plaster, but several of its good qualities were in consequence lost. The author states, that, by the following prescription, a good plaster may be obtained, which will admit of being spread with facility. It must be moderately stirred in the vessel, till it becomes cool, in order to cause the appearance of the proper red color.

℞ Colophon. lb. j.
Cer. flav. lb. ss.
Axung. porc. ℥ iiss.
Terebinth. commun. ℥ iiss.
Galbani depurati.
Gum. ammon. depur. aa. ℥ iss.
Bol. armen. pulv.
Lign. santal. rubr. subtiliss. pulv.
Croci opt. pulv. aa. ℥ ss.

Colophonio cum cera et axungia liquato, adde in terebinthina solutum galbanum et ammoniacum postremo crocum cum bolo et ligno santali.—*Jahn in Buchner's Repertorium.*

Professor Buchner remarks, that he entertains no doubt of the efficacy of the above plaster, but he cannot see the utility of the addition of the bole and saunders-wood, for the sole purpose of dyeing the composition, without their exerting the least influence on its remedial action.

PATHOLOGICAL, THERAPEUTICAL AND OPERATIVE SURGERY.

8. *Case of Fungus from the Synovial Capsule of the Knee*, under the care of M. Gerdy, of the Hôpital de la Charité, treated by compression.—The subject of this case is a young man, aged 30, of a lymphatic and deteriorated constitution. On the internal surface of the knee there is an ulcer of the size of the palm of the hand, from whose base has sprung an ill-conditioned fungus of the size of half an orange, and which, according to M. Gerdy, originates from the external surface of the synovial capsule, and has no communication with the joint. The articular movements are quite free, and cause no discharge of pus, as would be the case if the disease communicated with the synovial cavity. In M. Gerdy's opinion this is the best test that can be employed for the purpose of ascertaining if a tumor containing fluid, and which has been opened, communicates with the neighboring articulation or not. The patient has an affection of the same nature on the dorsal surface of the wrist. The fungus neither ap-

pears cancerous, nor has any tendency to bleed: at the knee, as well as at the wrist, it is composed of an enormous number of granulations of the size of a nut, having a greyish color, and of a soft dirty aspect, and yielding a large quantity of fetid pus. The means employed by M. Gerdy for the treatment of this affection are, compression by means of strips of adhesive plaster, and under the influence of these, and rest, the disease is improving. M. Gerdy has met with one other case of this rare disease; it was situate at the elbow-joint, and occurred in an individual in whom he had amputated the leg, but who refused to submit to the loss of his arm: it was treated by compression, and a cure followed, but there was anchylosis of the joint.

In a pathological point of view, this is a rare affection; indeed, it is the first time we have met with it. An attentive examination of the joint leads to the idea that there is hypertrophy of the whole synovial capsule, with tendency to fungus from its external surface. It appears to us that the affection may be compared to certain non-cancerous fungi which occur on the mucous membrane of the alveolar processes, and which have been denominated epuli. Its co-existence at the knee and wrist at one and the same time, and the deteriorated state of the constitution, would lead us to suspect that it originates from some peculiar diathesis. There are, however, no distinct signs of scrofula, although the patient has a pale cachectic look; but this appearance is, perhaps, an effect of the local disease itself. However this may be, M. Gerdy has commenced the treatment by compression, to which he proposes to add the internal use of the iodide of potassium. A marked diminution in the size of the vegetation has already taken place, under the use of the compression alone.—*Annales de Thérapeutique*, Sept., 1844.

—

9. *Urethroplastie.*—M. Jobert (de Lamballe) communicated an interesting case of urethroplastie. The patient, aged 36, was admitted into the Hôpital St. Louis early in June, in the present year, affected with extensive extravasation of urine, which terminated in several abscesses, coupled with gangrene of the entire left side of the scrotum, of a limited portion of the perineum, of the groin, and of the lower surface of the penis. The integuments and canal of the urethra were destroyed to the extent of three inches. The cause of the extravasation was stricture of the urethra and rupture of the canal during a violent effort to expel the urine. M. Jobert having first remedied the extravasation by suitable incisions, and allowed sufficient time to elapse for restoration of the general health, and for the tissues to contract, proceeded to repair the urethra in the following manner:—He divided the operation into two periods! he first refreshed the edges of the loss of substance in the perineum and in the groin, and immediately united them by several points of interrupted suture. The reunion of those parts being obtained, he allowed it to become consolidated before he attempted to repair the breach in the urethra. For this latter purpose he refreshed the entire circumference of the opening in the urethra, and then cut the flap from the right side of the scrotum, dissecting carefully, so as to avoid implicating the testicle; this flap being insufficient, he carried the incision to the dorsum of the penis, and made a flap which was continuous with the first; having thus obtained a sufficient quantity of skin to cover the breach in the urethra, he united it to its borders by ten points of suture, supporting each point of suture by a piece of agaric placed under it, in order to delay its cutting out, and so allow sufficient time for union by the first intention to be effected. A small gum-elastic catheter was left in the urethra until the cure was completed. The patient now passed water in a stream much fuller than he could previous to his admission to the hospital. The contraction of the cicatrix has drawn the testicle towards the ring, and the penis is slightly curved.—*Dublin Medical Press.*

—

10. *On Enterotomia in a case of obliteration of the small intestine: by Dr. Maisonneuve.*—In this memoir the author passes in review: 1st, the different species and varieties of obliteration of the small intestines, which are of three kinds, according to their causes:—*a*, those seated in the interior of the intestinal canal, by which its calibre is diminished:—*b*, those situated in the membranes

of the intestines causing stricture:—c, those which act mechanically on the parietes of the intestine, obliterating it by the pressure it exercises. From thence, three classes may be established, and called: obliteration by obstruction —obliteration by stricture—obliteration by strangulation. 1st, *Obliteration by obstruction* may be produced by foreign bodies, such as a cherry (Denonvilliers), a biliary calculus, a fæcal tumor, by invagination:—2d, *Obliteration by Stricture.*—It is congenital or may be caused by a strong constriction of the intestinal tunics, by wounds, contusions, ulcerations, various degenerescences. Is primitive or consecutive;—the former is produced by the adherence of the opposite walls: the obliteration is then complete, but generally it depends on a puckering or swelling, or ulceration of the membranes, occurring in hernia, reduced by taxis, though far oftener in those which need the operation:—the latter where, in strangulated hernia, the parts are reduced, and the passage of the fæces re-established, but after a week or two they stop again, owing to the diminution of the intestine produced by the cicatrix resulting from ulceration:—3d, *Obliteration by Strangulation.* Several cases of strangulation, produced by internal hernias (diaphragmatic, ischiatic, obturator) or by abnormal adherences, are here quoted. The author next enumerates the symptoms, describes the diagnosis and most efficient mode of treatment, and finally concludes:—1st, that the numerous varieties of obliteration of the small intestines can no longer be considered as beyond the resources of art:—2d, that enterotomia constitutes an efficacious mode of treatment;—3d, that it may be employed in cases which are not complicated by peritonitis:—4th, that this operation ought to be placed beside that for strangulated hernia, and enterotomia of the large intestine.—*The Medical Times, December* 14, 1844.

OBSTETRICS AND DISEASES OF FEMALES.

11. *Corpora Lutea.*—A paper by M. Raciborski, "On the nature of the Corpora Lutea, and the differences which they present in their appearance, according as the expulsion of the ovum has or has not been followed by conception," has been lately read before the Academy of Medicine in Paris. It is summed up under the following heads:—

1st. The corpora lutea are the result of an actual hypertrophy of the granular layer, which covers the internal membrane of the Graafian vesicles. The anatomical elements of these two parts are absolutely alike, only the granulations of the corpora lutea are much more numerous, and inclose more oily globules of a yellow color.

2d. The transformation of the inner coat into a corpus luteum, commences before the rupture of the vesicles, at the time when these latter are preparing to give passage to the ovulum.

3d. As soon as the Graafian vesicles are ruptured, the transformation of the inner membrane into a corpus luteum acquires a remarkable activity. But there are here two important differences to establish, according as the expulsion of the ovulum has been spontaneous, which happens after each menstrual period, or after the rutting season, or as it is coincident with sexual connection, followed by conception.

In most female domestic animals, such as the sow, the cow, the ewe, and others, this difference does not exist. Whether they have had sexual intercourse or not, the expulsion of the ovulum is always followed by the formation of corpora lutea, represented by fleshy masses of a yellowish or reddish color. But it is not so in woman. If the expulsion of the ovulum has not been followed by conception, as happens, for instance, after each menstrual period, then the granulations increase both in number and in size; but this activity of nutrition is soon arrested in the shape of a delicate membrane of a more or less marked yellow, glued to the one peculiar to the vesicles, and in the cavity which surrounds it traces of a clot of blood may always be seen. If, on the contrary, the expulsion of the ovulum is coincident with conception, the elements of the gra-

nular coat increase so much in size and number, that, in a little time, they form a very large mass, filling the whole cavity of the vesicles.

4th. In all women whose accouchements are true to time, may be found a yellow body, such as we have just described. But the most remarkable point is the rapidity with which they decrease and become atrophied after the expulsion of the fœtus.

5th. It consequently results from the preceding propositions, that in woman it is very easy to distinguish, by inspection alone, the cases of spontaneous expulsion of ovula, from cases where the expulsion has been followed by conception.—*Gazette Médicale de Paris.*

—

12. *Report of Midwifery Cases Occurring in Private Practice.—By Kenrick Watson, Esq., F.R.C.S., Stourport.*—The following is the result of 800 cases of Midwifery, of which I kept an account during a period of eighteen years:—

Premature labors,	12
Twin cases,	18
Face presentations,	14
Breech ditto,	11
Presentations of arms, &c.	11
Dangerous flooding,	17
Convulsions during labor,	3
Ditto after birth of the child,	1
Rupture of the vagina,	3
Ditto of an artery in the labia pudendi,	1
Cases where it was necessary to open the head,	12
Severe flooding, after extraction of the placenta,	2
	105
Natural Labors,	695
	800

Of the premature births, several were occasioned by one or both parents being affected with syphilis.

In two cases in which the arm presented in the vagina, the placenta had been over the os uteri, but had been forced into the vagina by the protrusion of the arm. The flooding, in the first instance, in both cases, had been violent, but had ceased when the placenta was forced into the vagina. The women, in both cases, were strong and healthy, and the uterus strongly contracted round the body of the child.

Of the seventeen cases of severe flooding, fifteen arose from the adhesion of the placenta over the os uteri; and in two cases the placenta was not so situated, and the flooding ceased after the membranes were ruptured. Of the fifteen cases one died before I got to the house, and one soon after she was delivered. She had been flooding two or three days before I saw her. In these seventeen cases four children were saved.

In one of the cases, in which the head was opened, the woman was dropsical. She had been in labor many hours; the uterus was so thin that the limbs of the child could be distinguished by the touch through the parietes of the abdomen. The uterus was dilated, the head was large, and the bones detached. After the head was punctured, about a quart of fluid was discharged, as the bones were so loose that they afforded no hold to the crotchet. I passed my hand by its side, and brought down the feet. No contraction of the uterus followed; the re-introduction of my hand produced no effect, the uterus continued like an empty bag, with the placenta attached to its fundus. I gave her brandy and ammonia, poured cold water on the abdomen, and then injected cold water into the uterus without the least effect. I then applied a thick compress upon the abdomen, and a flannel roller round the body. There was no discharge of blood at the termination of two hours. I left her in the charge of her medical attendant, and in the course of the night she died.

The case in which a rupture of the labial artery took place, was attended by a

midwife. Two hours after delivery, she complained of pain and swelling of the right labium, bearing-down, and discharge of blood from the rectum. She died on the third day. Upon examination, thirty hours after death, the perineum and surrounding parts were found injected with blood; the integuments of the abdomen emphysematous, a cavity in the labium lined with coagulated blood, and communicating with the rectum, through a laceration about half an inch in extent.

In two cases the placenta was diseased. In one, the maternal part was left firmly adhering; great irritative fever supervened, with very offensive discharges, but by injections into the uterus, bark and acids, the woman, who was nearly fifty, recovered. In the other, a discharge of water took place in the fourth month, and continued to recur from time to time till the seventh month, when labor commenced. At this time the uterine tumor was divided into two parts. When the os uteri was sufficiently dilated, I passed my hand and found the fœtus, with the membranes entire, occupying one half of the uterus, and the placenta and a quantity of grumous blood, the other half. So far as I could ascertain, the putrid mass was formed by blood and hydatids. The woman recovered.

In one case there was a knot on the umbilical cord, and in another, a rupture of the umbilical artery. In a third case, the child was apparently seized with convulsions before labor commenced, and died. The woman when at work, ironing, in a very hot room, became faint from the violent motion of the child; it shortly became still, and never moved again. She was delivered on the fourth day afterwards, and the child was in a state of decomposition.

Several cases required the use of the lever or the forceps, and in no case, unless the death of the child was evident, was the head opened till one or other of them had been tried.

Out of the 800 cases seven proved fatal,—three from rupture of the vagina; two from flooding; one from rupture of an artery in the labia pudendi; and one, in which the head was opened and the child putrid, where peritonitis had either preceded, or occurred during, labor.—*Provincial Med. & Surg. Journal, Dec.* 4, 1844.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

13. *Post-mortem Examination.—Death by Prussic Acid.*—Mr. Nordblad of Slough, in the *Medical Gazette*, details the particulars of the post-mortem examination in this case, which, from its peculiarities, has excited a good deal of attention.

The deceased was 41 years of age; the body was lying on the floor as she died; the left stocking was half down the leg; no shoes on the feet, or cap on the head. The shoes and cap were on the opposite side of the room when the body was found. The surface of the body was pale; extremities rigid; a little animal heat still existed in the fleshy part of the thighs (the examination was made eighteen hours after death); the countenance had a calm expression; the pupils were half-fully dilated; there was no odor about the body, but the usual cadaverous smell; there were no marks of violence upon the body; menstruation was going on at the time of death.

The contents of the thorax and abdomen, the larynx, trachea, and pharynx, were healthy; the heart was full of blood on the right side. There was no odor differing from that of an ordinary dead body in the thorax or abdomen; the closest possible attention was paid to this point. The veins of the ovaria, fallopian tubes, and uterus, were very full of blood; the bladder was empty but flaccid; the uterus was somewhat increased in volume; its interior contained sanguineous secretion and mucus; it was not impregnated. The external genital organs were free from injury, and there was no appearance of connection having recently taken place.

The stomach contained rather more than half a pint of pulpy contents, consisting of chyme, with a few shreds of coarse beef, and some portions of apple. The whole had an intensely sour smell, exactly resembling that of food rejected

an hour or two after the commencement of digestion from a disordered stomach, but there was no odor that could possibly be considered in any respect like prussic acid.

The venous system of the brain was filled with black and fluid blood; no effusion, abscess, or tumor was found in any part. The vertebræ were all sound. "The sudden manner of death in this case, and absence of the characteristic smell of prussic acid, naturally led to the inference that if any poison had been taken, it would prove to be oxalic acid; the usual tests were therefore tried for this poison, but with negative results; and the same may be said of all the ordinary mineral and acid poisons. But prussic acid was unequivocally proved by chemical analysis to be present, and in considerable quantity. The processes followed in this investigation will be given at the proper time."

—

"14. *Case of Poisoning by the Berries of Daphne Mezereum, at Lomnitz.*—The berries of daphne mezereum are used, hereabouts, as a domestic purgative, taking 5 or 6 for a dose. But, on account of obstinate constipation, a peasant took 40. Soon after frequent and violent vomiting ensued, and almost uninterrupted pituitous stools, mixed with blood, and causing excruciating pains. The head was dull and giddy; the face shrunken and cold; the pupil dilated, and vision obstructed. Extreme thirst; burning pain felt from the throat to the stomach; violent colic. Voice altered, trembling; respiration short and difficult; pulse frequent, irregular, hard, and cord-like; urine dark; extremities cold; skin dripping with perspiration. Venesection and leeches, warm fomentations on the abdomen, and cold fomentations to the head; mustard poultices, clysters, emulsions, &c., improved the state of the patient, but, nevertheless, his recovery is excessively doubtful.—*Oesterr. Medic.—Wochenschrift.*

15. *Two Cases of Poisoning by Belladonna.*—First: a boy, 5 years of age, at Grieskirchen, fell ill soon after having eaten a few ripe berries of a belladonna-shrub. He vomited several times, and died on the following morning, at 7 o'clock, under an attack of convulsions. No medical aid had been sought. The half-opened eyes had a peculiar, dazzling, splendor; the pupils were enlarged; the mouth spasmodically closed; the anus open. The vessels of the cerebral membranes were distended with thick, black blood. Around the pharynx and œsophagus, several red spots were found. In the stomach, there were three half-opened berries of belladonna; dark-purple spots on its sides.

Second: the other patient was a peasant, 34 years of age, who, for the purpose of allaying his thirst, ate a great quantity of ripe berries of belladonna, till he felt burning in the throat, and an overpowering giddiness. At seven o'clock in the evening, he was so delirious that he was obliged to be kept down by three strong men. His face was swollen; his eyes red and prominent, the pupils much dilated. Strong pulsation of the arteries of the head and throat. Pulse full, hard, and very frequent. Swallowing impossible. After a venesection of 15 ounces, the patient became calmer; he complained of pressure, and violent burning pain, in the stomach and throat; great dryness of the mouth, particularly on the tongue; swallowing still impossible; but, after cold fomentations had been applied to the head, and clysters of vinegar administered, the power of swallowing returned. An emetic caused the discharge of about 3 ounces of a violet-blue liquid. The patient lay in a state of stupor. Thirty leeches were applied to the temples and behind the ears; poultices were placed over the whole head; clysters of vinegar administered, and an emollient decoction ordered. After 3 hours, diarrhœa and vomiting appeared. The determination of blood towards the head gradually diminished; consciousness returned; and the patient recovered, notwithstanding his having eaten, at least, 50 berries.—*Rosenberger, ibidem.*"

2.

American Medical Intelligence.

Surgical Operation in the "Mesmeric Sleep," by Dr. Bodinier.—We purpose in our next number to say something on the subject of *Mesmerism*, and especially of operations during what is called the "Mesmeric Sleep." Our readers have learned through the public prints that such an operation is alleged to have been recently performed by Dr. J. V. Bodinier, late of Paris, on a female in Chambers street, the operation consisting of the removal of a small tumor from the neck, behind the angle of the jaw. Dr. A. S. Doane who has reported the case in the Boston Med. and Surg. Journal, states that the patient, a female of 22 years, with dark brown hair and dark eyes, at twenty-five minutes past eleven, when he visited her, seemed quite bright and disposed to talk; at half-past eleven, Dr. B. commenced his *magnetic passes*, when in five minutes, her eye-lids drooped, and in ten minutes she sank into a profound slumber, the respiration and the pulse being natural. At half-past one the operation was performed by Dr. B. in the presence of Drs. Mott, Kearney Rodgers, Delafield, Nelson, Taylor, Parmly, Doane, etc. The tumor was of the size of a "pullet's egg," and its removal occupied two and a half minutes. The patient is said to have "slept profoundly" during the whole of it, there being "no contortion of face, no quickening of respiration, no motion of the head or hands, but she seemed in a placid and tranquil slumber." The patient was allowed to sleep till a quarter past four, when she was roused, and to the inquiry "how she felt," replied, "rather tired, her limbs ached." She was asked if she had suffered any pain during her sleep," when she answered, "no." "Whether she had been cut,"—"No," and said "the operation was to be performed next day."

As this operation has excited considerable discussion among the faculty and others in this city, we have endeavored to ascertain all the facts in the case, for our own satisfaction at least, if they should subserve no other purpose. Those present from whom we have solicited information, regard the operation as too trivial a one, to furnish a satisfactory test or proof of insensibility, although the patient *appeared to be* unconscious of pain. A difference of opinion prevails, as to the fact of the patient being in a "mesmeric sleep," although it is acknowledged there was every appearance of her having been in this state. Without designing, at this time, to express any opinion upon the case, one way or the other, we may remark that we have often been struck with the apparent insensibility of patients during severe and undoubtedly painful operations, and are satisfied therefore that great caution is necessary in scrutinizing these alleged cases, especially where circumstances seem to indicate that a regard to private interests has been the paramount motive of the operator.

The following letters with which we have been favored, and which we are kindly permitted to publish, have a very important bearing on this whole subject, and will be read with great interest.

"*New York, Feb.* 14, 1845.

"Mr. Editor,

"Dear Sir,—In a letter of the 11th inst., addressed to myself, you desire me to state what I witnessed of the firmness of a young gentleman, upon whom the operation of exsection of the inferior maxillary bone was performed by Prof. Mott, 'and the reflections to which it gave rise, as bearing on the subject of alleged surgical operations without pain in the mesmeric state.'

"The case to which you refer is briefly reported in the January number of the New York Journal of Medicine, by some person, who, like myself, was present at the operation. The subject is there stated to have been 'a fine intelligent young man, whose *heroic deportment* greatly facilitated the operation.'

"Perhaps it is enough that I should have quoted the expressive language of one, who appears to have looked on with the same admiration as myself; though these examples of 'heroic deportment' are common enough in the walks of surgery, especially amongst females; and that, too, without mesmeric imposture. The same eminent surgeon, who operated in the case which is the subject of these remarks, will tell you that he has extirpated many breasts, rendered highly sensitive by carcinomatous disease, without observing any evidence of pain. But there was something in the case of Mr. Baker, which certainly better deserved the encomium of 'heroic,' than anything I had ever before seen, or heard of, or even imagined as within the compass of human fortitude.

"This case, therefore, is interesting at this moment, as evincing a perfect capability of enduring the most intense, and sudden, and prolonged pain, without emotion, and as forming a test by which 'the subject of alleged surgical operations without pain in the mesmeric state,' will receive the explanation which you seek.

"The case is also physiologically interesting, and interprets the composure of those organic movements, under similar conditions, which has been set forth in behalf of animal magnetism.

"To appreciate properly the 'heroic deportment' of young Baker, you must imagine yourself to have been a spectator; follow the able surgeon in all the capital steps, and in all the minor details of the operation, and watch attentively the 'deportment' of the subject. He was laid at a convenient elevation upon a table, his feet crossed upon each other, and his hands lapped. I mention this position, because he did not move his feet, nor displace his hands during the operation.

"Now observe the operator; first, making a long and deep incision amongst the muscles of the neck, and then tearing his way down to the carotid artery, and throwing and tying the ligature. It was, in itself, one of the most capital operations in surgery; but, owing to the dexterity with which it was performed, and with an operation still before us far more difficult, and tedious, and dangerous, this grand step towards the exsection of the jaw lost much of its usual interest to the spectator. But it was not the less painful to the sufferer; who, however, sustained it without betraying the slightest evidence of pain.

"Next came the circular incision, reaching all the way from the joint of the maxillary bone, down along its lower edge, up to the middle of the chin. This was done by one rapid, immense sweep of the knife; but there remained the same imperturbable composure of the patient. Not a sigh, not a groan escaped, no muscle moved,—the very eye did not wink. And then followed, as you may well suppose, a prolonged, tedious, painful dissection, in which it became necessary to exasperate the suffering by securing many bleeding vessels; till, finally, the operator was ready for his saw. But nothing had yet happened to elicit a single manifestation that the patient was not in a profound slumber, excepting that his eyes were open, and that he occasionally swallowed.

"But, before sawing the bone at the middle of the chin, it was necessary to remove one of the incisor teeth, and this was so firmly rooted that a straight forceps slipped in the hand of a capable assistant. Another pull, however, brought with it the tooth; but in neither attempt was there any more indication of suffering than in drawing a nail from a board.

"Then came the process of sawing, and this was calculated to greatly annoy the patient from a slight accident which happened to the saw, and which prolonged this part of the operation. Still, however, the same 'heroic deportment' distinguished the patient forbearance of the sufferer, the same unexampled complacency continued to mark every lineament of his face, his very eye displaying nothing but gentleness, softness, and calm resignation.

"The bone being separated at the chin, the dissection was resumed amongst the important parts, and though conducted with all possible skill and rapidity, it was necessarily tedious, as well as hopelessly painful, and therefore, still calculated to try the firmness of the stoutest heart. A great extent of all kinds of tissues were divided, and, of course, no small proportion of nerves. Bleeding vessels continued to be secured, the difficult division of the articulating ligaments performed with as much facility as its difficulties would admit; and after the removal of the jaw, remaining portions of diseased muscle, &c., were cut away, and which tended not a little to embarrass that 'heroic deportment' which had marked every stage of this great and triumphant operation. From its beginning to its ending, which occupied one hour and a half after the first incision till the final extirpation of all the diseased mass, the sufferer did not manifest the slightest evidence of pain, or of impatience, or of fatigue, either by language, gesture, expression of countenance, winking, groaning, sighing, or any other imaginable method by which the mesmerite might be disposed to evade the overwhelming rebuke which the recital of this case cannot fail to inflict on his love of the marvellous, or his love of mischief, or his yet more culpable designs on human credulity.

"I have said that there was something physiologically interesting in the foregoing case beyond its simple merit of an 'heroic deportment,' and that it goes to the very depths of mesmeric assurance and duplicity. It was this:

"On feeling the pulse of the patient twice during the operation (the last time after the lapse of an hour), I found it calm, undisturbed, and with about the same frequency it had before the operation was begun. This proves to us what I have before expressed, that it is not pain, but the consequent mental emotions which affect the organs of circulation, whether the heart or blood-vessels.

"Thus ended an operation, unequalled in the annals of surgery; alike triumphant to the surgeon, to American Genius, to the admirable subject, to the cause of truth, of morality, and of sound religion,

"If you desire it, you may publish the foregoing statement, to which I should add some comments had I not already contributed my part, in a medical work, towards the suppression of one of the greatest nuisances that has yet infected the moral and reflecting part of the community. I have, however, some developments in reserve, which will probably see the light when the parties interested may be beyond the reach of greater reproof or mortification.

"I remain, very truly, your friend and obedient servant,

"MARTYN PAINE."

"Mr. Editor.—*Dear Sir,*—You inquire whether I have ever seen patients, during painful operations, exhibit few or no symptoms of suffering. I have seen instances of the kind so often, that they have ceased to occasion any surprise. I will mention a few examples. During the last summer, I amputated a leg of a man upwards of fifty years of age, who had been suffering for a number of years from an enormous ulcer. He bore the operation with perfect composure, and stated at its close, that he had during the previous night suffered much more pain from the ulcer, than had been occasioned by the operation.

"During the last autumn I amputated an arm of a boy thirteen years of age, who was suffering from Tetanus, occasioned by fracture of the forearm. From the time when the amputating knife penetrated the flesh, until the close of the operation, there was no expression of suffering, and he remained as quiet as if he had been asleep.

"Within the last few weeks, I have performed a partial amputation of a man's foot, which was anchylosed in such a position as to prevent him from walking.

He bore the operation in such a manner, that if his eyes had been closed a believer in Mesmerism might readily have believed him to be asleep.

"About two years since, I burned a number of camphor moxas on the forearm of a young man nineteen years of age, on account of a paralytic affection of the muscles moving the hand. He sat on a chair, and held out his arm during the operation, with as much composure as if he had been a mere looker-on.

"A few years ago, Doctor Stevens performed at the New York Hospital a most painful operation on a lad sixteen years of age. His leg had been fractured a number of years before, and the bones had united at nearly a right angle, so that the limb was a mere incumbrance to him. Dr. S. cut down to the bones, insulated them from the soft parts, divided them with a saw and replaced them in their proper position. The operation lasted about an hour, and I suppose that the pain which was occasioned by it was equal to that of a dozen amputations. Yet the patient endured the whole operation not only in silence, but without any change in the expression of his countenance to indicate that he was suffering. The bones did not reunite: the patient remained in the hospital many months, during which the vigor of his constitution was much impaired by his continual sufferings and by the unsound condition of his limb. Finally the leg was amputated by Dr. Watson; and the patient bore the second operation with the same heroism as the first.

"I was present during the last spring at an operation which was performed by Dr. Watson, for the relief of stricture of the œsophagus. The operation involved a tedious and painful dissection among important vessels and nerves. The patient was a young man in a delicate state of health, and enfeebled by the long continued difficulty of deglutition and of consequent want of nourishment. During the whole operation, which lasted more than two hours, he was in a state of as perfect tranquillity as if he had been in a quiet sleep.

"I have seen other cases in which persons have endured operations with little or no expression of suffering, and if it were necessary, I could furnish the details. Those which I have above related were all in males. But it is well known that females even surpass males in fortitude, and that the patient endurance of suffering is a striking characteristic of their sex. I have had opportunities of observing painful surgical operations which have been performed on females, who have borne them without any expression of suffering. But none of these cases are very recent, and I have not a sufficiently clear recollection of them, to be enabled to give them to you in *detail*.

"If I should see a surgical operation performed on a person of either sex, who was alleged to be in a state of mesmeric sleep or stupor, and if, throughout the operation, there should be an apparent insensibility to pain, I should be very far from being convinced that the mesmeric sleep, or the insensibility to pain was real. It would appear to me to be far more rational and more in accordance with known facts, to suppose that the sleep and the insensibility to pain were pretended, than to admit the existence of that unnatural state which is described as mesmeric sleep. I have no doubt that persons may be trained to endure severe pain without giving expression to their sufferings, and to feign sleep so perfectly that it would be extremely difficult to detect the imposture.

"Yours respectfully,

"ALFRED C. POST.

"4 Leroy Place, Feb. 13th, 1845."

Private Medical Instruction.—Compliment to Dr. Darling.—We take great pleasure in laying the following correspondence before our readers, not only in testimony of merit, zeal, and assiduity, in a private teacher, but as an incentive to others engaged in the same honorable calling. We lately had an opportunity of examining the case of surgical instruments, alluded to in the correspondence, and we deem it but an act of justice to Mr. George Tiemann, the maker, to say, that in point of elegance, beauty, and superior workmanship, they surpass anything we have heretofore seen from the manufactories of this country. The case, valued at $125,

contains, within a very reasonable compass, operating, trephining, amputating, eye and strabismus instruments, catheters, needles, &c. &c.; indeed everything that is ever wanted by the surgeon, except those for lithotomy. That they may prove as useful to the owner, as they are beautiful in appearance, is our sincere wish.

"*University of New York, March* 3, 1845.

"Doctor William Darling:

"Dear Sir—At a recent meeting of your Medical Class, held at the University, it was resolved to present you with a neat and valuable set of Surgical Instruments, which we now beg you will accept. And in doing so, the class authorize us, as its committee, to say, in their name, that this testimonial is justly due to you, in consideration of your kind attention to them in their studies, of your amiable and high-minded conduct to them as a gentleman, your distinguished attainments as a scholar, and your accurate, extensive, and profound acquaintance with the science of anatomy.

"With these feelings towards you, we remain, with great respect, yours, &c.,

"E. Macfarlan,
"John Orme,
"Jeremiah Brooks,
"S. S. Satchwell,
} Committee"

"Gentlemen:

"I accept, with pleasure, the very handsome and valuable case of Surgical Instruments, which the Class have been pleased to present me; and allow me to return to them, through you, my sincere thanks, for this very flattering testimonial of their friendship and esteem. Valuable as the gift is in itself, and highly as I may prize it as a work of art, its chief value, in my estimation, arises from the fact, that it is a proof that my humble efforts to impart instruction have met with their approbation, and I shall ever cherish it as an earnest of their kind wishes for my welfare and prosperity. I can only add, that it is my fond hope, that their success in the practice of their profession may be commensurate with the industry and zeal they ever manifested in acquiring a knowledge of its principles.

"I am, very respectfully, yours, &c.,

"William Darling.

"To Messrs. Macfarlan, Orme, Brooks, and Satchwell.

"*New York, March* 3, 1845."

Surgical Clinique at Geneva.—We have received a report of the surgical cases presented at Prof. Hamilton's Surgical Clinique, during his late course of lectures at Geneva College, but they are reported too briefly to be of much use to our readers, and therefore we shall omit their publication. The *Clinique* commenced on the 1st Tuesday of October, but the record of cases begins Nov. 30th. From this time to Jan. 18th, a period of six weeks, *eighty* cases were presented in which operations were performed before the class, some of them rare and of great interest. We extract the two following.—"Nov. 30th. Rhinoplasty. C. B. of Chemung County, aged 11 years, lost by a severe lacerated wound part of the right nostril. Having previously restored the natural channel, which was closed, the operation of Rhinoplasty was performed to-day. The edges of the chasm were first excised; next a piece of integument of the proper size was dissected from the face and transplanted or slid up towards the bridge of the nose, until it could be secured by sutures; after the sutures, adhesive plasters, compresses and rollers were applied, to assist in retaining the flap. Dec. 2. The lad was again brought before the class. The operation is perfectly successful; but as the transplanted skin con-

tinues to pull considerably upon the cheek, it was separated from the cheek, before the class, by a long incision down the side of the nose."

"J. G. of Junius, aged two years—has a *supernumerary finger* on right hand. The extra finger corresponds to the little finger. At birth there was an extra finger on opposite hand, held only by integument, which was cut off. He has *six* toes on each foot. His mother has the same extra members on both hands and feet, her mother also, and her five brothers and sisters. On her mother's side the same anomaly extends as far back as she knows her history. The finger was amputated."

There appears to have been quite a number of ophthalmic and club foot cases. In one case of complete amaurosis, of 12 years standing, the sight was partially restored, by the use of galvano-electricity, and the internal administration of strychnine. We shall hereafter take great pleasure in publishing accurate reports of all interesting cases, at the cliniques of our different medical schools, both in city and country.

—

Injuries of the Spinal Column.—In the preceding pages of our journal will be found an interesting case of fracture of the spinal column, with an operation: as such accidents are not infrequent, and in nearly all instances fatal, after a longer or shorter period, the expediency of an operation, in such cases, is a question deserving of discussion and investigation. We were lately invited to visit a patient in consultation, who had been thrown from a wagon, by the wheel coming off, when going at a very rapid rate, and who, in falling, fractured the fifth and sixth cervical vertebræ, by which the lower extremities, and nearly one half the body, were instantly paralyzed. The legs were not susceptible of the slightest sensation or motion; he continued in this state a few days, when the paralysis gradually extended upwards, till finally respiration, which had been mostly unaffected, became extremely difficult, and grew more and more so, till death occurred, about a week after the accident. On examination, the two vertebræ, above mentioned, were found fractured, and the bodies driven in upon the spinal marrow; inflammation had taken place, which resulted in effusion, and this, by pressure upon the cord, above the seat of the injury, so as to involve the origin of the phrenic nerve, had caused death, by paralyzing the muscles of respiration. We have since thought that this patient might have been saved, perhaps, by an operation; at any rate, we think it would have been everyway justifiable.

Dr. Potter, to whom we are indebted for the case referred to, relates the following, in a letter accompanying it:—"About eight years since, I was called to see a man, by the name of Abner Perry, who, while sitting upon the edge of a lumber wagon box, by a sudden start of his horses, was suddenly thrown backwards, out of the wagon, and, in falling, his neck struck on the band of the hub, and he was senseless for a few moments, but soon recovered his reason: his whole system was paralyzed, except his head. Doctor Oliver, of Penn-Yann, was called as counsel. I had already bled him, and the blood had the appearance of arterial blood. His pulse was quick and rapid, his breathing anxious; his countenance had an expression I shall never forget; I pronounced it a case of compression of the spine, by the posterior part of the vertebræ being driven upon the spinal cord, and wished the older physicians to operate; but as they would not consent, the operation was not performed. They called it simple concussion. The man died in less than two weeks; and on a post-mortem examination, my opinion was found to be correct. I found

the fourth cervical vertebra driven in upon the spine, in such a manner as to completely compress it; that is, the spinous process was not broken off, but the portion of the body to which the process is attached, was drawn in, with the process attached to it; the process of the fifth was broken off, but the posterior part was not compressed. I still have the bones that were removed, and have shown them to the gentlemen who opposed the operation. I then said I would operate, if I ever found a like case, which has never occurred, until the one I send you, reported by Doctor Hurds."

Quack Advertisements.—The English Evangelical Magazine, for January, has the following announcement of the proprietors: "We shall cheerfully abandon, in future, the publication of all advertisements of quack medicines, which will be an act of homage to our own taste and judgment, no less than a concession to the strongly expressed opinions of some of our best friends, who, with ourselves, deeply deplore the disease and mortality occasioned by the nostrums of medical quacks, published daily in this great metropolis." This is a noble resolution, and we wish it might be adopted and carried out in this country. If it were not for their lying advertisements in the papers, quacks could not live, and how those who have any consciences can lend their sheets to the constant iteration and reiteration of the falsehoods of charlatans, and the publication of forged certificates, is more than we can understand. If editors would unanimously agree to exclude all quack notices from their papers, we think the value of human life would be immediately increased one-third at least. It would do as much for the health of this city as sewarage, cleanliness, temperance, and Croton water, all combined.

—

Spring Courses of Lectures in New York.—We would call the attention of the students of medicine, both in this city and country, to the annual spring courses of lectures about to be delivered in this city. The course at the Hospital commences on the 10th of March, and that at the College of Physicians and Surgeons on the 11th—the former to continue two, and the latter three months. Two lectures will be delivered at the Hospital, four days in the week, and three lectures daily at the Crosby School, with the exception of Monday, which day is occupied with the clinic by Prof. Parker. Clinical instruction will also be offered at the college, in illustration of the different courses, and the advantages furnished at the hospital for observing medical and surgical practice are too well known to need particular mention. Students, who wish to make large acquisitions in the practical departments of the science, will be glad to avail themselves of the opportunities supplied by these courses of lectures. Country students will find a residence of two or three months in the city, during the spring, both pleasant and profitable.

—

Forry Monument.—Those gentlemen who have not sent in their subscriptions to the Forry Monument, and who wish to testify, in this manner, their sense of respect for the memory of the late Editor of this journal, are requested to remit the same to the treasurer, A. E. Hosack, M.D.

—

WANTED—A copy of CRUVEILHIER'S PATHOLOGICAL ANATOMY. Inquire of James Langley, 8 Astor House.

CONTENTS.—NO. XII.

PART I.—ORIGINAL COMMUNICATIONS.

Page.

ART. I.—Remarks on the Resuscitation of persons Asphyxiated from drowning. By JAMES STEWART, M.D., of New York, ... 295

ART. II.—On the Pathology of Leucorrhœa, Fluor Albus, or the Whites; with a detail of the opinions relating to it, of some of the most distinguished authors during the last 170 years, a notice of the peculiar appearances of the discharge, and an attempt to connect it more directly than has hitherto been generally done, with inflammation of the vagina, cervix, and lining membrane of the uterus. To which are appended, numerous illustrative cases. By WM. C. ROBERTS, M.D., Fellow of the Coll. Phy. and Surg., Lecturer in the Spring Course of the Assoc. for Med. Instruc. of said College; and formerly Physician to the Northern Dispensary, . 301

ART. III.—Case of Intussusception. By GEORGE M. MACLEAN, M.D., of New York, ... 330

ART. IV.—Notice of some Experiments for the Cure of Deafness. By P. MENIERE, M.D., Principal Physician to the Royal Institution for Deaf Mutes, at Paris. [Translated from the French. An Article in the "Annales de l'Education des Sourds-Muets et des Aveugles." Paris: 1844, ... 333

ART. V.—Extracts from the Recorded Proceedings of the New York Medical and Surgical Society, ... 338

ART. VI.—Fibrous Induration of the Prepuce and Body of the Penis. Amputation. By C. D. BARRETT, M.D., of Hallowell, Maine, . 358

ART. VII.—Case of Punctured Wound, followed by a remarkable Train of Symptoms. By LUTHER TICKNOR, M.D., of Salisbury, President of the Connecticut State Medical Society (with remarks by the Editor), ... 360

ART. IX.—A Brief Notice of the Senecio Aureus. Communicated to the Editor, by DR. GRAHAM, of Geneva, New York, ... 366

ART. X.—Observations on Rheumatism. By H. T. JUDSON, M.D., of New York, ... 367

PART II.—CRITICAL ANALYSIS.

ART. XI.—Rural Economy in its relations with Chemistry, Physics and Meteorology, or Chemistry applied to Agriculture. By J. B. BOUSSINGAULT, Member of the Institute of France. Translated with an Introduction and Notes, by George Low, Agriculturist. New York: D. Appleton & Co. 1845. 12mo., pp. 507, ... 370

Page.

ART. XII.—A Practical Treatise on Laryngeal Phthisis. Chronic Laryngitis and Diseases of the Voice. By A. TROUSSEAU, and H. BELLOC, M.D., Philadelphia. Carey & Hart. 8vo. pp. 186, . . . 371

ART. XIII.—A Treatise on the Diseases and Hygiene of the Voice. By COLOMBAT DE L'ISERE. Translated by J. T. W. Lane, M.D., Boston, 1845, ... 388

ART. XIV.—Twenty-fourth Annual Report of the Bloomingdale Asylum for the Insane. For the year 1844. New York: 1845. 8vo. pp. 55. Annual Report of the Managers of the State Lunatic Asylum, made to the Legislature, Jan. 31, 1845. Albany, 1845. 8vo. pp. 53, . . 390

ART. XV.—Report of the Medical Missionary Society in China, containing a General Survey of its Operations, from March, 1843, to June, 1844. Macao. 1844, ... 395

ART. XVI.—The Cyclopœdia of Practical Medicine, Parts XXI., XXII., XXIII., XXIV. Philadelphia. Lea & Blanchard. 1845, . . 399

ART. XVII.—Elements of Comparative Anatomy of the Vertebrate Animals designed especially for the use of Students. By RUDOLPH WAGNER, M.D., Professor of Comparative Anatomy and Physiology in the University of Gottingen, etc., edited from the German, by Alfred Tuck, M. R. C. S., New York. J. S. Redfield. 1845. 8vo. pp. 264, . . ib.

ART. XVIII.—A Treatise on Poisons, in relation to Medical Jurisprudence, Physiology, and the Practice of Physic. By ROBERT CHRISTISON, M.D., F. R. S. E. First American, from the 4th Ed. Edition. Phil. Barrington & Haswell. 8vo. pp. 756, ... 400

ART. XIX.—Hydropathy, or the Water-Cure; its Principles, Modes of Treatment, &c. Illustrated with many cases, compiled chiefly from the most eminent European Authors on the subject. By JOEL SHEW, M.D., 2d Edition, Revised and Enlarged. New York: Wiley & Putnam. 1845. 12mo. pp. 360, ... 401

ART. XX.—Recent Improvements in Arts, Manufactures and Mines, being a Supplement to his Dictionary. By ANDREW URE, M.D., etc. Illustrated with one hundred and ninety engravings. New York: D. Appleton, 1845. 8vo. pp. 304. 405

ART. XXI.—Human Magnetism, its claims to Dispassionate Inquiry, being an attempt to show the utility of its application for the relief of human suffering. By W. NEWNHAM, Esq., M. R. C. S. L. New York: Wiley & Putnam, 1845. 12mo. pp. 396, ... ib.

ART. XXII.—The Forceps. Journal of Dental Surgery and the Collateral Arts and Sciences. London. 1844–5, ... 406

ART. XXIII.—A Synopsis of the Symptoms, Diagnosis and Treatment of the more common and important Diseases of the Skin, with sixty colored figures. By N. WORCESTER, M.D., Prof. of Physical Diagnosis and General Pathology in the Medical School of Cleaveland, Ohio. Philadelphia. 1845. Large 8vo. pp. 202, ... ib.

ART. XXIV.—A Dictionary of Practical Medicine; comprising general Pathology, and Treatment of Diseases, Morbid Structures, &c. By JAMES COPLAND, M.D., F.R.S. Edited with additions, by Charles A. Lee, M.D. Parts V. and VI., pp. 288. Harper and Brothers. 1845, 407

ART. XXV.—A Conspectus of Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the United States Pharmacopœia; being a Practical Compendium of Materia Medica and Pharmacy. The Third Am. Edition. Edited by CHARLES A. LEE, M.D., Prof. of Gen. Pathology and Mat. Med. in Geneva Medical College, N. Y. H. G. Langley. 1845. 18mo. pp. 315, ... ib.

PART III.—1. FOREIGN MEDICAL INTELLIGENCE.

ANATOMY AND PHYSIOLOGY.

Page.
1. The Spleen and its Functions, ... 408
2. An Account of Prof. Mulder's Chemical Physiology of red coloring matter of blood, ... 409

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

3. Albuminaria—Albuminous Nephritis—Inflammation of the Malpighian Corpuscles—Granular Diseases of the Kidneys, ... 412
4. Treatment of Typhus, ... 416
5. Speculum Uteri, ... ib.
6. Icthyosis Intra-Uterina, ... ib.
7. Emplastrum Lithargyri Compositum, ... 417
8. Form of Adhesive Plaster, peculiarly suitable for Bandaging Issues, &c. ib.
9. Poisoning by Hydrocyanic Acid, ... ib.
10. Succus Conei, ... 418

PATHOLOGICAL, THERAPEUTICAL AND OPERATIVE SURGERY.

11. On the necessity of the Blepharoplastic Operation;—based on a Case of Removal of the Eyelid, ... ib.

OBSTETRICS AND DISEASES OF FEMALES.

12. On Detaching the Placenta in cases of Placenta Prævia, . . 419

MISCELLANEA.

13. Society and the Doctors, ... 421
14. Accidents resulting from the injection of Sulphuric Acid into the Rectum, ... 422
15. Mercurial Salivation, ... 423
16. Nasal Calculi, ... ib.
17. Death of Dr. Ribes, ... ib.
18. Excision of the Spleen, ... ib.
19. Serious wound of the Brain without lesion of the intelligence, . ib.
20. Poisoning by Cyanide of Potassum, ... 424

2. AMERICAN MEDICAL INTELLIGENCE.

Obituary Notice, ... 425
The Medical Profession in the City of New York, ... 426
Progress of Medical Jurisprudence in the United States, . . . 427

Index to Vol. IV. 430

TO READERS AND CORRESPONDENTS.

The present number closes the 4th Vol. of the New York Journal of Medicine, and the Collateral Sciences. The favor with which it has been received by the profession, as well as the amount of patronage extended to it, afford sufficient encouragement for its continuance, and it will therefore be issued hereafter at the usual periods, under the Editorial charge of Dr. Lee. The next number will contain articles by Professor Austin Flint, of Buffalo, Professor Hamilton, of Geneva College, Dr. Edson Carr, of Canandaigua, Professor Shipman, of Cortlandville, Drs. James M. Gardner, of Newburgh, A. C. Post, W. C. Roberts, J. A. Swett, E. G. Ludlow, J. C. Peters, and Theo. A. Tellkampf, &c., of this city.

☞ We have received from Mr. HOCKEN, of London, a pamphlet, being a reply to a notice of a work of his, in the last No. of the *British and Foreign Medical Review*, together with a letter, requesting us to do him justice in the premises. Not having seen Mr. Hocken's book, we are unable to comply with his request; we judge from the sensitiveness displayed, that the writer is a young man, who thinks his fate hangs entirely on the *dictum* of a reviewer,—a very common, but a very great mistake.

We have received since our last publication the following works:

Guano, its origin, properties and uses, showing its importance to the Farmers of the United States as a cheap and valuable manure, with directions for using it. 2d Edition. New York: Wiley and Putnam. 8vo., pp. 92. (From the Publishers.)

A Practical Treatise on Organic Diseases of the Uterus, being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1843. By JOHN C. W. LEVER, M.D., Member of the Royal College of Physicians, London, &c. Newburgh, New York: D. L. Proudfit. New York: Burgess and Stringer. 1845. 8vo., pp. 240. (From the Publishers.)

Common Sense on Chronic Diseases, or a Rational Treatise on the Mechanical Cause and Cure of most Chronic Affections of the Truncal Organs of both Male and Female Systems, embracing the Author's views on Physical Education, and the present popular system of artificial life. By E. P. BANNING, M.D. Boston. 1844. 12mo., pp. 402 (From the Author.)

Republication of the London Lancet. New American Series. Nos. III. and IV. New York: Burgess, Stringer and Co. 1845. (From the Publishers.)

Valedictory Address to the Graduating Class of the Medical Department of Pennsylvania College, for the Session of 1844-5. By JOHN WILTBANK, M.D., Prof. of Obstetrics and Diseases of Women and Children. Published by request of the class. 8vo., pp. 15. 1845.

A Valedictory Address, delivered by GUNNING S. BEDFORD, A.M., M.D., Prof. of Midwifery and the Diseases of Women and Children, in the New York University, on the Evening of Feb. 28, 1845. Printed for the Medical Class. 1845. 8vo., pp. 20. (From the Author.)

The Philosophy of the Moving Powers of the Blood. By G. CALVERT HOLLAND, M.D. London. 1844. 8vo., pp. 308. (From the Author.)

Rural Economy in its relations with Chemistry, Physics and Meteorology, or Chemistry applied to Agriculture. By J. B. BOUSSINGAULT, Member of the Institute of France. Translated with an Introduction and Notes, by George Low, Agriculturist. New York: D. Appleton and Co 1845. 12mo., pp. 507.

A Practical Treatise on Laryngeal Phthisis, Chronic Laryngitis and Diseases of the Voice. By A. TROUSSEAU and H. BELLOC, M.D. Philadelphia: Carey and Hart. 8vo., pp. 186.

A Treatise on the Diseases and Hygiene of the Voice. By COLOMBAT DE L'ISERE. Translated by J. T. W. Lane, M.D. Boston, 1845.

Twenty-fourth Annual Report of the Bloomingdale Asylum for the Insane. For the year 1844. New York: 1845. 8vo. pp. 55.

Annual Report of the Managers of the State Lunatic Asylum, made to the Legislature, Jan. 31, 1845. Albany: 1845. 8vo., pp. 53.

Report of the Medical Missionary Society in China, containing a General Survey of its Operations, from March, 1843, to June, 1844. Macao: 1844.

The Cyclopædia of Practical Medicine. Parts XXI., XXII., XXIII., XXIV. Philadelphia: Lea and Blanchard. 1845.

Elements of Comparative Anatomy of the Vertebrate Animals designed especially for the use of Students. By RUDOLPH WAGNER, M.D., Professor of Comparative Anatomy and Physiology in the University of Gottingen, etc., Edited from the German, by Alfred Tuck, M. R. C. S. New York: J. S. Redfield. 1845. 8vo., pp. 264.

A Treatise on Poisons, in relation to Medical Jurisprudence, Physiology, and the Practice of Physic. By ROBERT CHRISTISON, M. D., F. R. S. E. First American, from the 4th Ed. Edition. Phila.: Barrington and Haswell. 8vo, pp. 756.

Hydropathy, or the Water-Cure; its Principles, Modes of Treatment, &c. Illustrated with many cases, compiled chiefly from the most eminent European Authors on the subject. By JOEL SHEW, M.D. 2d Edition, Revised and Enlarged. New York: Wiley and Putnam. 1845. 12mo., pp. 360.

Recent Improvements in Arts, Manufactures and Mines, being a supplement to his Dictionary. By ANDREW URE, M.D., etc. Illustrated with one hundred and ninety engravings. New York: D. Appleton. 1845. 8vo., pp. 304.

Human Magnetism, its claims to Dispassionate Inquiry, being an attempt to show the utility of its application for the relief of human suffering. By W. NEWNHAM, Esq., M. R. C. S. L. New York: Wiley and Putnam. 1845. 12mo., pp. 396.

The Forceps. Journal of Dental Surgery, and the Collateral Arts and Sciences. London. 1844—5.

A Synopsis of the Symptoms, Diagnosis and Treatment of the more common and important Diseases of the Skin, with sixty colored figures. By N. WORCESTER, M.D., Prof. of Physical Diagnosis and General Pathology in the Medical School of Cleaveland, Ohio. Phila.: 1845. Large 8vo., pp. 202.

A Dictionary of Practical Medicine; comprising general Pathology, and Treatment of Diseases, Morbid Structures, &c. By JAMES COPLAND, M.D., F.R.S. Edited with additions, by Charles A. Lee, M.D. Parts V. and VI., pp. 288. Harper and Brothers. 1845.

A Conspectus of Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the United States Pharmacopœia; being a Practical Compendium of Materia Medica and Pharmacy. The 3d Am. Edition. Edited by CHARLES A. LEE, M.D., Prof. of Gen. Pathology and Mat. Med. in Geneva Medical College, New York: H. G. Langley. 1845. 18mo., pp. 315.

The following Medical Journals have been received in Exchange:

The British and Foreign Medical Review.
The London Medical Times.
The Dublin Medical Press.
The London and Edinburgh Monthly Journal of Medical Science.
The Provincial Medical Journal.
The London Medical Gazette.
The American Journal of the Medical Sciences.
The Illinois Medical and Surgical Journal.
The New Orleans Medical Journal.
The Boston Medical and Surgical Journal.
The Western Journal of Medicine and Surgery.
The St. Louis Medical and Surgical Journal.
The Medical News.
The Medical Examiner.
The Bulletin of Medical Science.
The Southern Medical and Surgical Journal.
The Montreal Medical Gazette.
Silliman's Journal of the Arts and Sciences.
The American Journal and Library of Dental Science.
The American Journal of Insanity.

☞All letters in regard to the ***business*** department of the Journal, and all remittances of money, should be addressed ***exclusively*** to the Publisher, Henry G Langley; but books for Review, and Communications designed for publication, should be directed, ***free of expense***, to the Editor of the New York Journal of Medicine, care of H. G. Langley, New York. Persons at a distance, may direct parcels paid as above, under care of Barrington and Haswell, Philadelphia, W. D. Ticknor and Co., Boston, and Wiley and Putnam, London.

☞ Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals till July 4th.

*** We regret to perceive in our last number several typographical errors in Dr. Coventry's Article on the History of Medical Legislation, in the State of New York.

Page 154, 3d line, read "Tuesday in July," instead of "Thursday."
" " 21st line, read "magnified" for "manifest."
" 155, 11th line from bottom, read "$5,000 for State society."
" 157, 22 lines from bottom, read "Legislative," instead of "Legislation."
" 160, 11 lines from bottom, read "possible" for "probable."
" " 3 lines from bottom, read "Trustees" instead of "Counties."
" 166, 5th line from top, read "which is five dollars to the County Societies."

In the Report of Dr. White's Case of Operation in our present number, after the word "supra-scapulary," 9th line from bottom of 340th page, insert "*there was no blood-vessel visible.*" For "*salivation,*" 1st line, page 342, read "*sore-mouth.*"